





### COLLABORATIVE PLANNING IN ACTION: Case Studies of Collaborative Planning in the US Army Corps of Engineers

## **EXECUTIVE SUMMARY**Collaborative Planning in Action

Over the past twenty years the nature of U.S. Army Corps of Engineers (Corps) planning has changed significantly. Since 1986 civil works projects require a local sponsor that shares in the cost of studies and in decision making. Over the years the Corps and regulators have learned that both are more likely to achieve their objectives if they work together in a cooperative manner. Many Corp projects now involve issues that by their very nature cannot be addressed by one agency, but require a coordinated effort by a number of federal, state and local agencies. All of these changes have set the stage for cooperative planning.

The purpose of this study -- part of a broader assessment conducted by the US Army Institute for Water Resources -- was to get a realistic assessment of what cooperative planning looks like in action. This report presents nine cases involving the use of collaborative planning in US Army Corps of Engineers studies. Section I provides the historical and policy background for the study, including definition of terms. Section II provides a description of each case accompanied by the text of an interview conducted with the Corps study manager who conducted each study. Section III provides a comparative analysis of the cases, and a discussion of lessons learned.

#### The case studies included:

Type of Study or Project		
Ala Wai Canal Watershed Study	Flood damage reduction and ecosystem restoration	
Comprehensive Everglades Restoration Plan	Restoration of the South Florida ecosystem, developing large quantities of surface and below-surface storage to capture stormwater runoff, and then directing this water to targeted areas.	
Eugene-Springfield Metro Waterways Study	Develop a "system approach" that integrates multiple water resource uses and jurisdictions in a single plan.	
Harris County Flood Reduction Projects	Nine flood damage reduction projects with the local sponsor taking the lead in planning, design and construction, and then reimbursed for the Federal share by the Corps.	
Illinois River Basin Restoration Study	Comprehensive plan to restore the ecological integrity of the Illinois River	

Perdido Pass Navigation Project	Navigation dredging. Use of dredged material for post-hurricane ecosystem restoration
Poplar Island Environmental Restoration Project	Use of dredged material to reconstruct remote island and marsh habitat in Chesapeake Bay
Va Shly' Ay Akimel Salt River Restoration Study	Ecosystem restoration study undertaken with a sovereign Native American Indian Community as the non-Federal sponsor
Willamette River Basin	Operational management of a multi-purpose project to protect the ecosystem while satisfying flood control requirements

#### **Lessons Learned**

A side-by-side comparison of the nine cases was made on a number of dimensions. The results of this analysis are provided on the following pages.

#### The overall lessons-learned were:

- In all nine cases, collaborative planning was judged to be a success.
- A number of Corps studies involve so many collaborators and stakeholders that only a collaborative planning approach has any hope of producing the credibility and commitment necessary for implementation -- there would have been no point in undertaking the study without collaborative planning
- Collaborative planning can be time consuming and seemingly costly when compared with traditional planning – but as noted above, in many cases traditional planning is not an option
- In most cases, collaborative planning produced long-term savings, particularly when it came time for implementation
- There was agreement in all nine cases that without collaborative planning there would have been a number of negative outcomes
- On-the-job training and mentoring is essential to equip study managers to conduct collaborative planning processes

#### FINDINGS FROM SIDE-BY-SIDE CASE COMPARISONS

#### Type of Study or Project

Six of the projects were large, multi-year planning efforts. A seventh involved preparing an annual operations plan governing operations for the entire Willamette River Basin. Size and complexity of a project may be an important consideration in the decision to use a collaborative planning methodology, although both the Perdido Pass and Ala Wai Canal studies were relatively small studies.

Each project had a significant environmental component. They illustrate the extent to which environmental quality and restoration are increasingly part of Corps' planning.

Each project required the involvement of several, and often myriad, Federal, state and local agencies for the project to be implemented in an effective or timely manner. That may also explain the environmental character of all the studies. Studies involving environmental issues may, by their very nature, require greater inter-agency coordination.

#### Why a Collaborative Approach Was Used

Based on these cases, collaborative planning is more likely to be used when one or more of the following conditions are present:

- There is a significant environmental component to the project, requiring technical expertise of state and Federal environmental agencies
- There is a need for an integrated total system-approach that utilizes programs and funding of numerous governmental agencies, Federal, state or local
- The Corps would be unable to implement the program by itself; implementation requires action from other governmental entities
- There is considerable potential for significant controversy without collaboration, and there are high levels of pre-existing interagency and stakeholder involvement on similar issues

#### **Kinds of Collaborators**

These cases show that the "collaborators" can be a wide range of Federal, state or local agencies. Typically they are "at the table" because

- They are a non-Federal sponsor,
- They have regulatory authority (the Corps will need to get a permit from them to implement the project),
- They share some form of jurisdiction for the resources being impacted,

- They possess technical expertise needed to address the problems
- Their participation is essential for implementation

#### **Organizational Structure for the Collaborative Approach**

The two smaller studies – Perdido Bay and Ala Wai Canal – had comparatively simple structures. Perdido Bay had a single working group that included all the relevant Federal and state agencies. The Ala Wai Canal study had a slightly more complicated structure: there was a Core Leadership Group which included the Corps and state agencies, a technical advisory group that included additional Federal and state agencies and technical researchers, and additional committees were set up as needed,

For the larger studies there are some commonalities in organizational structure:

- There is a core team that manages the day-to-day operations of the study. This
  team will include, as a minimum, staff from both the Corps and the non-Federal
  sponsor. It may also include staff from regulators or other agencies which posses
  needed technical expertise.
- Typically there is a policy-level group whose primary function is to resolve issues
  that cannot be resolved horizontally within the core team. This policy-level group
  will include a senior manager from the Corps (typically either a District Engineer
  or Division Engineer) and a senior manager from the non-Federal sponsor, and
  may include senior managers from regulators or other agencies critical to
  implementation of the plan or project.
- All other interested agencies are part of work groups or advisory committees.
   They are often joined on those work groups/advisory committees by researchers/technical experts and staff of major stakeholder groups.
- There is some form of public participation process in addition, which provides opportunities for other stakeholder groups or the general public to participate in decisions.

#### **Decision Making**

There are two decision making models that appear in these cases:

- 1. A Corps manager and a manager from the non-Federal sponsor make final decisions based on (and giving considerable deference to) recommendations from an interagency study team, and/or working groups.
- 2. Consensus decisions by all agency collaborators.

One of the key considerations is the level of political support necessary to obtain funding or implement the project. The more the Corps and project sponsors need support of other organizations/agencies, the more likely others will be included in actual decision making

#### Stakeholder Involvement

All of the larger studies had significant stakeholder involvement processes in addition to collaboration between the agencies. Some stakeholders may participate on working groups or advisory committees, particularly if they are represented by staff with technical expertise. Otherwise they have the opportunity to participate in public workshops or meetings. Many of these programs had extensive public information programs as well. Larger studies tended to have web sites where they posted most documents pertaining to the study. Access to some documents could be restricted through the use of passwords, but generally the approach was to make most report and publications available for access.

#### **How Process Expectations Were Established**

All cases, except Perdido Pass, involved some sort of written documentation of roles and responsibilities. In some cases there were extensive protocols covering such issues as decision making and dispute resolution.

#### **Status of Relationships Prior to Collaboration**

Perdido Pass was the only case that reported an effective working relationship prior to the immediate project/study. In most other cases there was a need to build trust over time. One issue that emerges in at least a couple of the studies is the Corps' reputation, with people expressing some surprise that the Corps is interested in or has expertise in environmental restoration. Also, one tribal nation expected the Corps to ignore its issues.

#### Methods, Tools and Techniques

There was considerable agreement on the need for documentation, and careful recording of expectations and decisions.

There were several recommendations, but no techniques were mentioned in more than two cases. The recommended techniques included:

- (2 cases) Use of a two-day charrette or an out-of-the-office event (such as an annual rafting trip) to build a sense of team unity.
- (2 cases) Careful documentation of all meetings and decisions.
- (2 cases) Use of an existing collaborative framework or organizational structure.
- Use of an external facilitator/mediator until collaborators are able to work together without one
- Use of statistical models for forecasting conditions using multiple scenarios.
- Use of agreed-upon data and sources.

- Use of an external consultant to assist with public involvement.
- Rotate meeting location to equalize travel and preparation time (and get to know the organizational setting of the other team members)

#### Benefits/Costs of Using a Collaborative Approach

There was general agreement that collaborative planning is more costly and timeconsuming than more traditional planning, particularly initially. The one exception was the Perdido Bay Case, where the collaborative approach led to dramatic cost savings in both planning and implementation.

There was agreement that the investment of time and money in collaborative planning was more than compensated for by the benefits received. There were some indications that a collaborative process results in costs savings during the implementation phase.

#### What Would Have Happened With a Less Collaborative Approach

There was a high level of agreement that the studies/projects would have been considerably less effective had there been no collaborative planning. The likely outcomes without collaborative planning included:

- There would have been delays in obtaining regulatory permits.
- Implementation would have been delayed, or would not have occurred at all.
- There would have been considerably more contention and controversy.
- The product would not have been as comprehensive or useful.

#### Institutional Obstacles that Had to Be Overcome

There were allusions to Corps policies that posed barriers to collaboration but the case studies did not provide a significant amount of information about institutional barriers. One of the barriers mentioned was the "culture" within the Corps, but there was not a shared definition of which characteristics of Corps culture posed a barrier.

The two other institutional barriers were:

- A belief that Corps policy requires that all plans must be within the power of the Corps to implement
- Extended policy reviews that reduce momentum and create uncertainty.

The Harris County case was interesting because the local sponsor took the lead in design and construction, then received reimbursement from the Corps. The two organizations worked together for more than a year to establish an understanding of how to apply Corps rules and procedures in this situation. However, the local sponsor believes that these issues have been largely resolved and would not pose a barrier to

other local sponsors who wished to take the lead under Section 211(f). The Flood District did comment, however, on problems caused by internal disagreements between different levels of the Corps, as well as changing Corps priorities.

#### Ineffective Tools or Approaches/Things They Would Do Differently

There was no consistent message about ineffective tools, but based on these cases, future study managers would be advised to:

- Use proactive public involvement; hold meetings in communities that are impacted.
- Work as a group particularly in the beginning rather than individually with collaborators.
- Use smaller work groups in preference to large public meetings (which should be informational only)
- Engage higher-level decision makers throughout the process, to make it easier to get buy-in during implementation.
- Be aware that management of in-kind services is time-consuming and sensitive
- Accommodate cultural differences about use of time, particularly when working with Tribal Communities.
- Document the relationship/agreements with environmental agencies so there is less time lost when there are personnel changes.

#### **Study Manager Preparation and Training**

- All but one of the study managers felt adequately trained to manage the study, athough one other found he needed additional training.
- By far the most valuable training was on-the-job training and mentoring by senior planners.
- General leadership training was mentioned as having value.
- Training in public involvement, dispute resolution and facilitation also proved valuable.
- Other kinds of training study managers said they would like to receive included:
  - Working with multi-disciplinary groups/organizing groups
  - Communications training
  - Technical training such as watershed planning or adaptive management
  - Training on how to handle in-kind services

### **Lessons Learned**

The study managers developed a lengthy list of recommended "best practices." However, many of the items were only mentioned once. The list is presented on pages 130 - 131.

### **TABLE OF CONTENTS**

Section 1: Background of the Study		
The Corps Planning Environment Definitions		
Collaborative planning	3	
Environmental conflict resolution	4	
Summary of definitions	4	
Policies Supporting Collaborative Planning		
Corps policy	4	
Executive Order 13351 – Facilitation of Cooperative	6	
Conservation	0	
Memorandum on Environmental Conflict Resolution	6	
Section 2: Case Studies	8 9	
Study Methodology	9 11	
Ala Wai Canal Watershed Study		
Comprehensive Everglades Restoration Plan  Eugene – Springfield Metro Waterway Study	20 34	
Harris County Flood Damage Reduction Projects	43	
Illinois River Basin Restoration Project	51	
Perdido Pass		
Poplar Island Environmental Restoration Project	60 68	
Va Shy' Ay Akimel Salt River Restoration Study	76	
Willamette River Basin	85	
Section 3: Analysis of Case Studies	96	
Analysis of Case Studies	97	
Type of study or project	97	
Why a collaborative approach was used	99	
Kinds of collaborators	100	
Organizational structure for the collaborative approach	102	
Decision making	104	
Stakeholder involvement	105	
How process expectations were established	107	
Status of relationship prior to collaboration	108	
Method, tools & techniques for establishing a collaborative framework	109	
Benefits/cost of using a collaborative approach	111	

	What would have happened with a less collaborative approach	113
	Institutional barriers that had to be overcome	114
	Ineffective tools or approaches/things they'd do differently	116
	Study manager training and preparation	117
	Lessons learned	119
Overa	Ill Lessons Learned from the Nine Cases	122
Appendices		123
Apper	ndix 1	
	EC 1105-2-409 Planning in a Collaborative Environment Office of Management and Budget/President's Council	125
Apper	ndix 2	
	Office of Management and Budget/President's Council on Environmental Quality Memorandum on Environmental Conflict Resolution	135

# Section I BACKGROUND OF THE STUDY

## COLLABORATIVE PLANNING IN ACTION: Case Studies of Collaborative Planning in the US Army Corps of Engineers

This report presents nine cases of US Army Corps of Engineers planning studies utilizing collaborative planning. Section I provides the historical and policy background for the study, and a brief descruptio0n of methodology. Section II contains a detailed description of each case accompanied by the text of an interview conducted with the Corps study leader of each study. Section III provides a comparative analysis of the cases and a discussion of lessons learned

### Section I BACKGROUND OF THE STUDY

#### THE CORPS' PLANNING ENVIRONMENT

In decades past the US Army Corps of Engineers (Corps) largely controlled both the planning and implementation of its civil works projects. Congress approved the planning studies, the Corps conducted the studies, Congress appropriated the funds for implementation, and the Corps carried out the implementation.

But in the last 20 years the environment in which Corps planners work has changed radically.

Since 1986 the Corps must find a local sponsor for Civil Works projects – typically a local or state government agency or port authority -- which will share in the costs of the studies and the implementation. Initially, the Corps thought of these sponsors as "clients." But the Corps soon discovered that local and state entities don't like to be in the position of having to foot the bill without having a say in both planning and implementation. Increasingly local sponsors are recognized as "partners," who have a seat at the decision-making table throughout the entire process.

The relationship between the Corps and regulators such as the US Environmental Protection Agency (EPA), the US Fish and Wildlife, the National Marine Fisheries Service (NMFS), and their state counterparts, has also evolved. Initially, with the passage of environmental legislation in the 1970s and 1980s, the relationship between the Corps and environmental regulators was often strained, at "arms-length," and sometimes adversarial. This often led to impasse, time delays, increased costs, and even a failure to solve problems. Over time both the Corps and the environmental regulators have recognized that even though they have different mandates and interests, they share a common interest in addressing the problems. As a result, the Corps and both state and federal environmental regulators are increasingly "partnering," entering cooperative agreements to share decision making and work cooperatively to solve problems.

Many Corps projects involve issues that by their very nature cannot be addressed by one agency, but require a coordinated effort by a number of federal, state and local agencies. Examples include: ecosystem restoration, regional sediment management, river basin studies, wetlands restoration, fisheries habitat restoration, and water quality issues. In such programs, the Corps must work cooperatively with other agencies and entities for the program to be a success. Often these other entities must carry out part of the program.

Finally, the Corps has learned over the past several decades that public participation during the planning process can resolve many issues effectively, reduce controversy, and build commitment to subsequent implementation. Even though the Corps retains ultimate decision making authority, public support is essential for programs that require implementation by multiple entities

All of these changes have set the stage for cooperative planning. As recent Corps guidance states: "Today, the Corps is being asked to use its planning capability to facilitate, convene, and advise, and to work collaboratively with other Federal and State programs in developing solutions that integrate programs, policies, and projects across public agencies."

The purpose of this study was to get a realistic assessment of what cooperative planning looks like in action. This is part of a broader assessment of collaborative planning being conducted by the US Army Institute for Water Resources (IWR), a policy think-tank established within the Corps.

IWR first published a study describing the policies and guidance issued recently by other federal agencies that address public participation, collaborative planning, or environmental conflict resolution<sup>2</sup>. IWR is currently assessing institutional barriers that make it more difficult to engage in collaborative planning. IWR is also developing a collaborative planning website that will be available fro both Corps planners and the public. IWR also has the responsibility for assessing the Corps's use of environmental conflict resolution, and recently completed an agency-wide appraisal on the use of environmental conflict resolution.

#### **DEFINITIONS**

As the paragraph above indicates, there are three different processes involved. Below are definitions they may be helpful in clarifying the differences between public participation, cooperative planning, and environmental conflict resolution:

#### **Public Participation/Public Involvement:**

<sup>&</sup>lt;sup>1</sup> EC 1105-2-409, Section 4(b), 31 May 2005

<sup>&</sup>lt;sup>2</sup> Creighton, James L., *Public Agency Public Participation/Collaborative Planning Polices*, U.S. Army Corps of Engineers, January 2006.

The terms "public involvement" and "public participation" are, in practice, used interchangeably. The key characteristics of public participation are:

- Public participation applies to administrative decisions, those decisions typically made by agencies (and sometimes by private organizations), not elected officials or judges.
- Public participation is not just providing information to the public. There is interaction between the organization making the decision and those people who want to participate.
- There is an organized process for involving the public. It is not something that happens accidentally or coincidentally.
- The participants have some level of impact or influence upon the decision being made.

Typically the term "public participation" is not used to describe direct negotiations such as those that would occur among equal parties. In public participation the agency retains decision making authority, although it may choose to enhance the acceptability and implementability of the decision by offering the public some level of impact or influence upon the decision before the decision is made.

#### **Collaborative Planning**

In May 2005, the Corps issued Circular No. 1105-2-409 titled "Planning in a Collaborative Environment" [See Appendix 2]. While no specific definition of "collaborative planning" is provided, this circular does state that:

Collaborative planning with other Federal agencies and Tribes requires the Corps to move beyond the Corps interest and embrace solutions that reflect the full range of the national federal interest (the collection of all responsibilities assigned to Federal agencies). Collaborative planning involves not only a traditional non-Federal sponsor in partnership with the Corps, but also representatives from other Federal, State and local agencies as members of the study team and bringing their expertise, programs and projects together with the Corps. Collaborative planning is encouraged for traditional project scale planning and is essential to the success of watershed scale planning. In addition, such collaboration can improve the regulatory climate by addressing all the regulatory issues together and reaching agreements for siting various activities in advance. [Section 6A, EC 1005-2-409 32 May 05.]

This wording suggests that collaborative planning involves:

- A team effort, with the team composed of Federal, State, and local agencies
- Within the team there is joint decision making that may result in a decision that reflect interests broader than those of the Corps mission alone.

#### **Environmental Conflict Resolution**

On November 28, 2005 the Office of Management and Budget and President's Council on Environmental Quality issued the "Memorandum on Environmental Conflict Resolution" [Appendix 1]. That document states that:

Under this policy, Environmental Conflict Resolution (ECR) is defined as third-party assisted conflict resolution and collaborative problem solving in the context of environmental, public lands or natural resources issues or conflicts, including matters related to energy, transportation, and land use. The term "ECR" encompasses a range of assisted negotiation processes and applications. These processes directly engage affected interests and agency decision makers in conflict resolution and collaborative problem solving has ultimate responsibility for decision making.

The memorandum goes on to state that:

While ECR refers specifically to collaborative processes aided by third-party neutrals, there is a broad array of partnerships, cooperative arrangements, and unassisted negotiations that federal agencies enter into with non-federal entities to manage and implement agency programs and activities.

#### **Summary of Definitions**

- In public participation there is consultation and interaction with people and groups outside the Corps, but decision-making authority is retained by the Corps
- In collaborative planning there is a team consisting of representatives of multiple federal and/or state agencies, and decision making is – to a greater or lesser degree – shared within the team
- In environmental conflict resolution a neutral third party such as a mediator assists a federal agency and outside parties in reaching a mutually acceptable agreement

There is the potential for using several of these techniques at once. A collaborative planning team may also conduct a public participation program. A neutral third party may be brought in to help resolve conflicts within a collaborative planning team or to assist the team in resolving conflicts with external groups or individuals.

#### POLICIES SUPPORTING COLLABORATIVE PLANNING

Although the practice of collaborative planning may have developed largely in response to circumstances on the ground, there is growing policy support for the practice.

#### **Corps Policy**

In April 2000 the Corps issued guidance for planners known as ER11-5-2-100. Appendix B of that document, is titled "Public Involvement, Collaboration, and

Coordination." This ER is primary guidance for conducting public involvement in Corps planning studies.

The ER also discusses collaborative planning, as follows:

Collaboration. Collaboration occurs when the Corps works jointly with other agencies or entities throughout the planning process. Collaboration is distinguished from coordination through the active involvement of the parties in conducting studies and or implementing recommended projects. Collaborative efforts can range from participation on interagency study teams through joint funding of construction, operation or maintenance of water resource projects.

In 2005 the Corps issued a "Planning in a Collaborative Environment" policy <sup>3</sup> that deals much more explicitly with collaborative planning. In particular this policy document wished to address several problems:

The Corps traditional approach to water resources planning was designed to facilitate problem solving and decision making for specific sites and projects. Concerns about this approach have included: over-reliance on national economic development (NED) as the primary selection criterion; (2) constraining Corps work to a narrow sub-set of "Federal interest" purposes defined as Corps priority budget outputs (primarily flood damage reduction, commercial navigation and ecosystem restoration), and (3) the amount of time it takes to complete Corps planning.

#### In response the EC specified:

- Not only are planners encouraged to consider Federal interests outside of Corps authority, but that projects that embrace the full range of Federal interests will receive budget priority
- "Net benefit" is defined as net beneficial effects including all plan effects, beneficial and adverse, in the four Principles and Guidelines (National Economic Benefit, Environmental Quality, Regional Economic Development, and Other Social Effects)
- Planning studies will be completed in three years, but collaborative watershed studies could be granted an exception to this requirement
- Mitigation is to be considered an integral part of the planning process, and should be accomplished at the same time as the planning
- Adaptive management practices are encouraged

<sup>3</sup> Planning in a Collaborative Environment, EC 1105-2-409, Section 4(b), 31 May 2005 {see Appendix]

#### **Executive Order 13352 - Facilitation of Cooperative Conservation**

In August 2004, President Bush issued Executive Order 13352 titled "Facilitation of Cooperative Conservation." The purpose of the order is "to ensure that the Departments of the Interior, Agriculture, Commerce, Defense and the Environmental Protection Agency implement laws relating to the environment and natural resources in a manner that promotes cooperative conservation, with an emphasis on appropriate inclusion of local participation in Federal decisionmaking, in accordance with their respective agency missions, policies, and regulations."

As used in the order, the term "cooperative conservation" means actions that relate to use, enhancement, and enjoyment of natural resources, protection of the environment, or both, and that involve collaborative activity among Federal, State, local, and tribal governments, private for-profit and nonprofit institutions, other nongovernmental entities and individuals."

The specified Federal agencies are enjoined to carry out their programs, projects and activities in a manner that:

- (i) facilitates cooperative conservation;
- (ii) takes appropriate account of and respects the interests of persons with ownership or other legally recognized interests in land and other natural resources; and
- (iii) properly accommodates local participation in Federal decisionmaking; and provides that the programs, projects, and activities are consistent with protecting public health and safety.

Beyond these general requirements, the Executive Order also directed that the agencies contribute to a White House Conference on Cooperative Conservation.

#### Memorandum on Environmental Conflict Resolution, November 2005

In November 2005, the Office of Management and Budget (OMB) and the President's Council on Environmental Quality (CEQ) jointly issued the "Memorandum on Environmental Conflict Resolution." The cover letter accompanying the memorandum states:

The President strongly supports constructive and timely approaches to resolving conflicts when they arise over the use, conservation, and restoration of the environmental, natural resources, and public lands. Consistent with the August 2004 Executive Order on Cooperative Conservation, the accompanying Memorandum on Environmental Conflict Resolution sets forth basic principles for engaging federal agencies in environmental conflict resolution and build institutional capacity for collaborative problem solving. It provides a useful compilation of mechanisms and strategies that can be used for achieving these goals.

The key points covered in the policy section are that agencies should:

- Ensure the effective use of ECR and other forms of collaborative problem solving
- 2. Recognize and support upfront investments in collaborative process and conflict resolution, and establish performance and accountability measures
- 3. Build internal capacity
- 4. Consider the use of assisted negotiations when addressing environmental conflicts
- Draw on the services of US Institute for Environmental Conflict Resolution (USIECR)
- 6. The Directors of OMB and CEQ will convene periodic leadership meetings and the USIECR will convene a quarterly interagency forum
- 7. Federal agencies shall prepare annual reports on their use of ECR and submit it to OMB/CEQ.

#### Section 5 of the report directs agencies to:

- 1. Integrate ECR objectives into Agency Mission Statements, Government Performance and Results Act Goals, and strategic planning.
- 2. Assure that the agency's infrastructure supports ECR
- 3. Invest in support of programs
- 4. Focus on accountable performance and achievement.

# Section II CASE STUDIES

### Section II CASE STUDIES

#### STUDY METHODOLOGY

This study looked at nine cases of collaborative planning, representing a variety of planning projects in which Corps planners are involved.

The cases were prepared by interviewing Corps study managers for each case, and reviewing background material provided by the Corps study managers. The interview protocol that was used for each study manager interview is provided on the following page.

No interviews were conducted with "cooperators" – representatives of agencies who worked with the Corps on these cases. One limitation of these studies is that they report the perceptions of the study manager, not necessarily the perceptions of the entire planning team.

Five of the cases were prepared by Steven Pugh, then a planner in Corps' Baltimore District, who also selected the nine cases for inclusion in this study. James L. Creighton, Creighton & Creighton, Inc. conducted the interviews for the other four studies and wrote the analysis section.

A description of the nine cases is provided on subsequent pages.

#### INTERVIEW PROTOCOL

#### **GENERAL PROJECT BACKGROUND**

1. Please provide a brief description of the project. Authority, Location, Purpose, budget (relative scale), Status

#### **PREPARATION**

- 1. Do you feel that you were well prepared and had the skills needed going into this study?
- 2. What training would you have taken or did you take to prepare for this level of collaboration?

#### **COLLABORATION**

- 1A. Who were the collaborators (internal to Corps & external)?
- 1B. What categories/groups of stakeholders are most impacted?
- 2. What roles or levels of roles did they play & what types of resources did they bring to the table (i.e. enviro/economic; advisory/voting; technical review, funding; passive or active)?
- 3. What written or unwritten expectations existed among the collaborators?
- 4. How were final decisions decided as the study moved from one milestone to the next? Were the collaborators satisfied with this process?

#### **TOOLS & METHODS**

- 1. What methods, approaches, or tools did you use to identify collaborators & establish a collaborative framework?
- 2. What was the framework or structure that was used? (i.e. types of committees/ sub committees)?
- 3. What tools, methods, techniques, ground rules or approaches were used to facilitate continued & ongoing collaboration?
- 4. What tools, methods, techniques and etc. were used to facilitate collaboration?
- 5. Was there any tool, approach, method that did not work well or that you would not recommend?

#### **COSTS & BENEFITS**

- 1. What were the costs (time/\$/etc.) & what were the benefit of using the collaborative approach?
- 2. Why did you choose to plan collaboratively? (why it's worth it?)

#### **LESSONS LEARNED**

- 1. What obstacles (Corps policies, other agency policies, etc.) had to be overcome to facilitate the collaborative framework?
- 2. Would things have turned out differently if a less engaging less collaborative approach was taken?
- 3. If you had to do it all over again, what would you have done differently with respect to who and how collaboration was implemented?
- 4. Do you have any other lessons learned or comments?

### Ala Wai Canal Watershed Study Oahu, Hawaii Honolulu District



**Key Issues:** Watershed Studies, Indigenous People, Sensitive Species, Urban Ecosystems

### Ala Wai Canal Watershed Study Honolulu District, Hawaii

#### General Background

The Ala Wai watershed is located above the Waikiki area on the southern shores of the island of Oahu, Hawaii (Figure X-1). The watershed includes those areas that lie between Punchbowl Crater (Puowaina) and Diamond Head Crater (Le'ahi), and from the crest of the Ko'olau Mountains to the near-shore reef. It encompasses approximately sixteen square miles and is composed of three major sub-watersheds including the Manoa, Palolo, and Makiki which drain to the Ala Wai Canal. The canal is an approximately two mile long man made waterway that was created to enable land reclamation for development purposes.

Historically, the Waikiki area was a wetland and estuary where the mountain streams drained into tidal waters. Surrounded by beautiful steep mountains with lush flat valleys, and complete with fresh water streams and springs, this area was a favored residence of the ali'i, the Hawaiian Kings.

Early human impacts to the area included the establishment of fish ponds and ditches called 'auwai which carried fresh water to terrace fields for agricultural purposes. These practices were developed to provide a sustainable food source for the native residents and were designed to have minimal impacts to the natural stream systems. During the time of these early communities (ahupua'a), freshwater (wai) was equated with wealth. In fact, the word for wealth and prosperity was waiwai indicating an abundance of water. The native Hawaiian's believed in sharing water and felt that people should only utilize the amount of freshwater that they absolutely needed. This philosophy lead to the Hawaiian word for law, kanawai, which means "the equal sharing of water".

The freshwater stream systems of Oahu were once habitat for an abundance of fish. The native Hawaiians understood the importance of streams that connected the mountains to the sea. Since these streams traverse over waterfalls and have steep topography, very flashy hydrographs, and may go dry at various times of the year, only five species of native fishes (O'opu) were able to successfully adapt to them. Of these five species, four of them are endemic, meaning they exist nowhere else in the world. Also, four of these species are amphidromous which means they have two migrations in their life cycle.

The O'opu are washed out of freshwater streams into the estuary as larvae where they undergo metamorphosis. After staying in the estuary for as little as a day and half and up to several months, depending on the species, they return to the mountain streams where they occupy different habitat types based on their ability to climb. One species, O'opu hi'ukole (*Lentipes* concolor) inhabits the highest elevations and has been known to climb straight up water falls of several hundred feet.

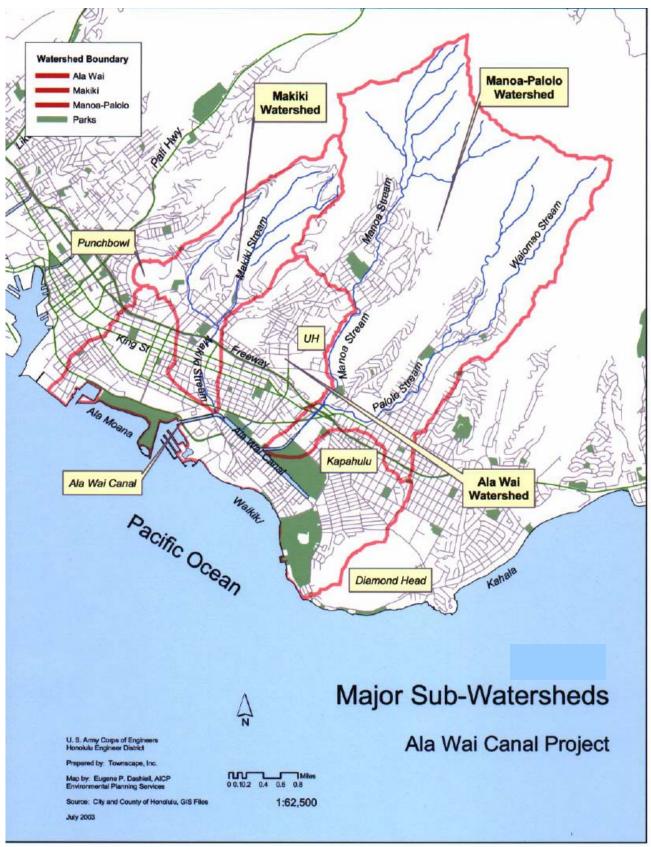


Figure X-1: Ala Wai Canal Study Area

With time, the ahupua'a gave way to larger settlements. Outsiders were attracted to Hawaii by the beautiful scenery and pleasant way of life. Hawaii also became an important strategic location for military purposes. This resulted in a tremendous rate of population growth and the establishment of larger cities. In fact, during the twentieth century, the population of Hawaii grew from one hundred and fifty thousand to one million people.

This growth had a substantial impact to the Waikiki area and the Island of Oahu. During the first quarter of the century, the Waikiki Reclamation Project was constructed, including the Ala Wai Canal which was constructed from 1920 to 1924. The purpose of this project was to create additional opportunities for development while decreasing the mosquito population and "beautifying" the area.

Over the following decades, Waikiki developed into an urban resort area attracting tourists from around the world. The many projects associated with development and population growth around Waikiki has resulted in substantial impacts to the natural waterways. With the added development and the need for flood protection, waterways became channelized, ditched, dammed, re-routed, polluted and filled in.

The State of Hawaii has adopted the mauka to makai (mountain to sea) initiative, recognizing the need to return to a more holistic approach towards water resources management. As part of this initiative, the state entered into an agreement with the Honolulu District to conduct a multi-purpose feasibility study of the Ala Wai Canal watershed.

The purposes of the study are to investigate and evaluate opportunities for flood damage reduction and ecosystem restoration in the Manoa, Palolo, and Makiki drainages including the Ala Wai Canal. The canal has been over topped three times since its construction which resulted in substantial flooding in Waikiki. In addition, a storm in 2004 in the Manoa drainage was estimated to cause over one hundred million dollars in damage and destroyed irreplaceable historic documents in the University of Hawaii's library.

Along with problems related to flooding, there are many ecological problems throughout the watershed. Sedimentation, culverts and other structures and stream modifications are greatly reducing the ability for the native fish species to migrate back and forth between the freshwater streams and the estuary. Water quality problems are impacting the streams, estuary and near shore reefs. In addition, many riparian areas have undergone deforestation and numerous non-native plants and animals have been introduced, often out-competing native species for resources and space.

At the beginning of the study, it became obvious that a high level of collaboration and coordination would be needed to identify all the problems and formulate potential solutions for future implementation. One of the reasons for needing such collaboration is that the stewardship of the resources in the study area is distributed among so many agencies within all levels of government. Additionally, many of the problems in the

watershed are outside the Corps' mission and implementation of the solutions to those problems would have to come through a variety of other Federal and state agencies.

To address the complex issues within the study area, the Honolulu District decided to conduct a "Comprehensive Watershed Analysis" during the problem identification stage of the feasibility study. To coordinate the nearly 30 agencies and groups collaborating on this analysis, a simple organizational structure was established (figure X-2). This structure included two regular committees and one forum for ad hoc groups to meet. The first committee consisted of the "core group" and included the Honolulu District, representatives from the State of Hawaii as the non-Federal sponsors, and hired consultants. A second group consisting of agency and academic experts on environmental issues formed the technical advisory committee. Finally, a number of ad hoc groups met to address issues that were not appropriate for either of the regular committees.

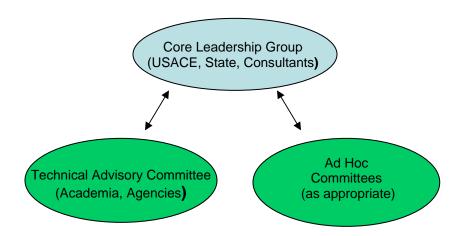


Figure X-2: Committee Framework for Comprehensive Watershed Analysis

During the watershed analysis, the committees:

- inventoried available watershed data and information,
- identified all water resources problems,
- identified data gaps,
- formulated coordinated solutions, and
- recommended Federal, state, and local agency programs that may be utilized to leverage project implementation.

As a final product, a "Comprehensive Watershed Analysis" report was developed that incorporated the problems and potential solutions to be carried forward by appropriate agencies. By taking this collaborative approach towards planning, the Honolulu District was able to address the concerns of a variety of stakeholder groups with a full range of

interests in the study. This approach successfully built trust and encouraged cooperation among all levels of government agencies, organizations, property owners, community groups, elected officials and academia. As a result of these efforts, the foundation has been laid to move forward into the implementation phase and begin to provide solutions to the problems in the Ala Wai Canal watershed.

#### Interview with Study Manager

### 1. Do you feel that you were well prepared and had the skills needed going into this study?

**Answer:** I was not well prepared. I did not really know what to expect or how to organize and pull the study together. However, I did have the skills to work with people, learn what I needed to know, coordinate the team and discover where we needed to go.

### 2. What training would you have taken or did you take to prepare for this level of collaboration?

**Answer:** Most of the skills I had were developed through my experiences on the job in planning. I did participate in the Seattle District's Leadership Development Program where I was trained to listen and learn. Additional training in communication would be very useful.

### 3. Who were/are the collaborators in this study both internal and external to the Corps?

**Answer:** The primary <u>internal</u> collaborators included the study manager and our consultants.

**Answer:** The primary <u>external</u> collaborators included the State of Hawaii as the non-Federal sponsor; Honolulu Board of Water Supply; University of Hawaii; various research scientists with prior studies in the area; multiple watershed groups; and other Federal agencies such as the USEPA; USFWS; USGS; and NRCS.

#### 4. What categories/types of stakeholders are most impacted?

**Answer:** Affected stakeholders include those interested in environmental and conservation issues; flood damage reduction; local businesses, tourism, cultural resources (those who represent indigenous people such as the Office of Hawaiian Affairs and the State Historic Preservation Officer).

# 5. What roles did the collaborators play and what types of resources did they bring to the table?

**Answer:** The Honolulu District Study Manager functioned as the team leader. The other collaborators provided critical planning and/or technical knowledge on issues such as ground water supply, marine resources and other scientific information for example.

#### 6. What written or unwritten expectations existed among the collaborators?

**Answer:** Written expectations were included in several documents including the Feasibility Cost Sharing Agreement with the sponsor, Task Orders with Consultants, and a schedule for the entire team. The unwritten expectations were that we would produce a product that would be as comprehensive as possible and useful to all the collaborators and as many other groups as possible.

### 7. How were/are final decisions made as the study moved from one milestone to the next?

**Answer:** Milestones existed in the schedule but could be flexible when appropriate. The group did not require 100% consensus but all input was fully considered. In the end, the USACE Study Manager had to make the final decision.

#### 8. Were/are the collaborators satisfied with this process?

**Answer:** The collaborators seemed to be very happy because all of the input was fully considered. They understood that the Corps and the State were paying for the study.

### 9. What methods, approaches, or tools did you use to identify collaborators and establish a collaborative framework?

**Answer:** We started out with the core group which included the Corps, the State of Hawaii (non-Federal sponsors) and the consultants. The core group brainstormed on who needed to be involved and asked others who should be involved. Finally, we determined how each group would be involved and what roles they would play.

### 10. What was the framework or structure that was used to organize the collaboration?

**Answer:** The "Core Group" was led by the Honolulu district study manager. Final decisions were made in this group. There was a technical advisory group which included the scientific and regulatory community which provided critical input to the Core Group on technical issues. In addition, the Core Group would hold individual meetings with agency representatives, interested groups and private citizens (usually land owners) that wanted the opportunity to express their views in a more private setting.

# 11. What tools, methods, techniques, ground rules or approaches were used to facilitate continued & ongoing collaboration?

**Answer:** We established a schedule and budget to provide direction and establish expectations. We conducted regular monthly meetings throughout the process to facilitate communication and maintain momentum. We also generated meeting minutes to document comments received and decisions made.

### 12. Was there any tool, approach or method that did not work well or that you would not recommend to others?

**Answer:** Nothing. However, I suggest that study managers be flexible when possible with the schedule and scope on a study like this. There needs to be an environment where the team can make adjustments as they learn new information.

### 13. What were the costs (time/\$/etc.) & what were the benefits of using the collaborative approach?

**Answer:** The time and cost would obviously depend on the size and complexity of the study and study area. Our watershed analysis effort took about \$100 K and one year to complete. The collaboration was one of the primary areas where funds and time were spent.

#### 14. Why did you choose to plan collaboratively?

**Answer:** We wanted to make sure that there was a broad understanding and acceptance of what the problems were so that the recommendations could be fully embraced by the agencies and stakeholders. Also, it would require diverse funding sources and programs to fully address the problems. Therefore, all of the groups needed to work together to insure the ability of future implementation.

### 15. What obstacles (Corps policies, other agency policies, etc.) had to be overcome to facilitate the collaborative framework?

**Answer:** One obstacle is the culture of engineers within our own agency that has been slow to embrace new mission areas such as watershed planning and environmental issues. Another obstacle was the Corps reputation. It caused those outside our agency to be apprehensive about why we were even interested in watershed and ecosystem related studies. Many thought of the Corps as having a disregard for protecting the environment. Some were suspicious of the Corps motivation to undertake restoration actions. These obstacles were overcome during the study coordination and certainly after the study report was produced and shared with the general public.

### 16. Would things have turned out differently if a less engaging less collaborative approach was taken?

**Answer:** Yes, the product would not have been comprehensive or useful to anyone outside the Corps and the non-Federal cost-share partner. In addition, the product would have had much less utility and use. Finally, other agencies would not have embraced the findings of the watershed analysis and would not have included the proposed projects in their programs.

### 17. If you had to do it all over again, what would you have done differently with respect to who and how collaboration was implemented?

**Answer:** I would have had decision makers at a higher level involved so that in the end they could more easily endorse the plan. The analysis phase should have included USACE Division level people more as well as decision makers in the City and County of Honolulu. Bottom line: Be more proactive about involving decision makers early and often.

#### Lessons Learned in Collaboration to Consider

- 1. When working in a collaborative environment, make sure that all of the stakeholders, including their decision makers, are kept informed of the study progress. This will assure that the partners will be able to endorse the decisions and follow through with those actions identified for their organization.
- **2.** The Honolulu District incorporated a broad group of collaborators from the very beginning of the study. By developing a "Comprehensive Watershed Analysis" during the problem identification phase, they were able to achieve broad by-in from other agencies to address issues that were not within the Corps' authority.
- **3.** When organizing a large group of partners and stakeholders to conduct an effort as complex as a comprehensive watershed analysis, the study manager does not need to know everything. The study manager needs to be able to approach the partners with an attitude to listen and learn and discover which direction to take.

# Comprehensive Everglades Restoration Plan Jacksonville District, Florida



**Key Issues**: Environmental Restoration (on a massive scale) Stormwater Drainage; Hurricane Flooding; Drought; Habitat Protection; Agriculture

### Comprehensive Everglades Restoration Plan Jacksonville District, Florida

#### **General Background**

The South Florida ecosystem is an 18,000 square-mile area extending from the Chain of Lakes and the Kissimmee River through Lake Okeechobee to the coastal areas of the Caloosahatchee and St. Lucie Rivers, Florida Bay, Biscayne Bay, and the Florida Keys. The Everglades region is a subtropical wetland, the only one of its kind in the US. This area includes the Everglades, Big Cypress National Preserve, and the only living coral reef in North America. Because the water and land area of the Everglades is so unique, the plant and animal life in this area is also very unique, exhibiting a tremendous amount of biodiversity. The South Florida ecosystem is also home to 6.5 million people and supports a large economy of agriculture, tourism, and industry.

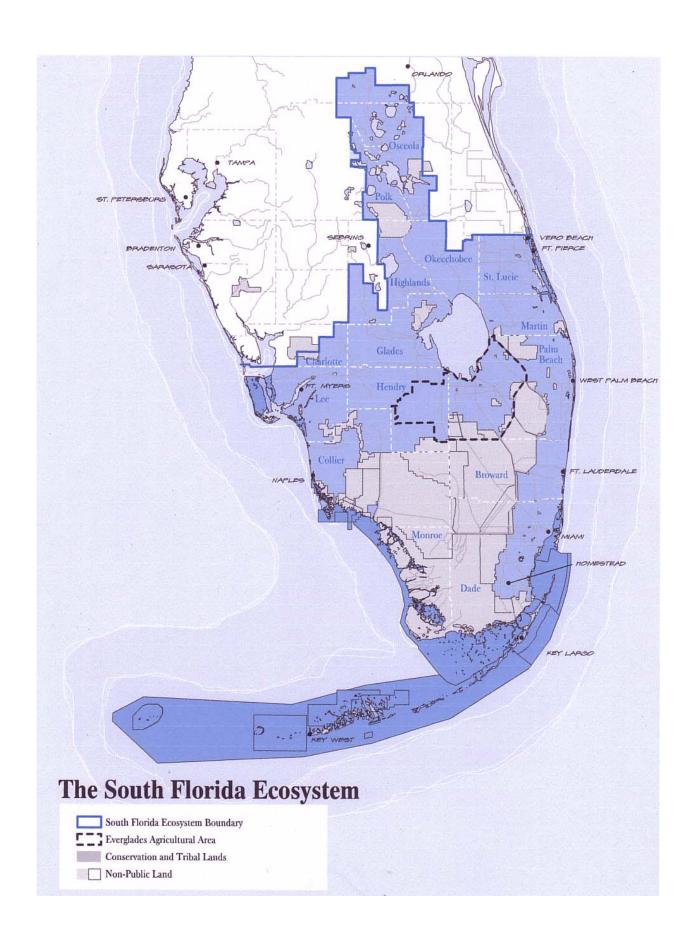
The wet season throughout the wetlands region ranges from May to October and account for 76% of the total rainfall. The average annual rainfall is between 40-65 inches of rain, but there is tremendous variability. As a result, the region experiences periods of extreme drought and periods of extensive flooding, often accompanying hurricane winds.

Prior to human intervention, water would flow down the Kissimmee River into Lake Okeechobee. During period of high rainfall, water would overflow the lake at the south end. The water would move south into the Everglades area, and then flow in sheets up to 50 miles wide and 100 miles long at a pace of about 100 feet a day. Eventually the water would drain into Florida Bay, at the south tip of Florida.

In 1903 a major flood destroyed the majority of the crops and farms in the Everglades. The State of Florida began to construct a series of drainage projects design to implement the then-Governor's promise to "drain that abominable, pestilence-ridden swamp." By 1917 four major canals were constructed that routed water from Lake Okeechobee to the Atlantic Ocean. This had the effect of making the region sufficiently dry for crops and farm to survive.

Several hurricanes during the period from 1926-1928 caused extensive flooding in the area. The 1930 the Corps of Engineers began to construct a continuous ridge of levees around Lake Okeechobee, designed to contain flood waters. Agriculture was reestablished in the area, with sugar cane as the major crop. Sugar cane production doubled between 1931 and 1941.

Another series of hurricanes hit South Florida in 1947 and 1948, inundating hundreds of thousands of acres of land, some for as long as six months. In 1948 the Corps initiated its Central and Southern Florida Project for Flood Control and other Purposes. The result today is a system of over 1,400 miles of canals, dikes and levees, able to control 3.8 billion liters of water per day. This project also resulted in the creation of specific



land use areas including the Everglades Agricultural Area, Water Control Areas, and the Everglades National Park.

Environmental concern began to grow during the 1960s, with particular concern about the Everglades. A coalition of environmental groups succeeded in blocking a proposed airport that would have been built in the Everglades.

In the period between the 1960s and the mid-1980s there were several major droughts, often accompanied by major fires, followed by periods of hurricane-induced floods. In 1981 a 1:200 year drought occurred, following by major flooding in 1983 resulting from hurricanes. The caused then Governor Bob Graham to launched a campaign that resulted in the Save Our Everglades Act designed to protect the Kissimmee River, Lake Okeechobee, the Western Conservation Area, Big Cypress Swamp, Everglades National Park, and Florida Bay. There was also increasing concern about protecting threatened and endangered species. 56 plants and animals, most of them indigenous only to the Everglades wetland area, are considered endangered or threatened under the Endangered Species Act. In the Water Resources Development Act of 1982, Congress directed the Corps of Engineers to review its report on the Central and South Florida Project to determine whether the project could be changed to improve the South Florida ecosystem.

In 1986 a huge algae bloom covered the surface of Lake Okeechobee. This resulted from phosphates in fertilizers used by agriculture, particularly sugar crops. In 1987, Florida passed the Surface Water Improvement Act requiring a mandatory reduction in phosphorus loading by 1992 and directing water districts to create and implement plans to protect and restore designated water bodies. In 1985 the South Florida Water Management District began a plan to restore more natural hydrologic conditions in one section of Everglades National Park, and in 1988 began the design of the Everglades Nutrient Removal Project, the largest constructed wetland in the US. In 1989 Congress passed the Everglades Expansion and Protection Act. This Act added 107,600 acres to Everglades National Park and also called for improved water flows to the park.

But the 1980s were also a period of dramatic growth in population in Southern Florida, resulting in added pressures on the environment. Florida Bay showed significant losses in sea grass habitat, algae blooms, reduction in shrimp and many fish species, and decline in water clarity.

In 1988 the federal government sued the South Florida Water Management District and the Florida Department of Environmental regulations. The suit claimed that the agencies had failed to enforce water quality standards in discharges into Everglades National Park and the Loxahatchee National Wildlife Refuge. The suit resulted in a consent degree designed to deal with phosphorus pollution, but this was challenged in lawsuits filed by agricultural interests. In 1994 the Florida legislature passed the Everglades Forever Act designed to reduce phosphorus pollution to the Everglades. This has resulted in best management practices that have been adopted by agricultural interests.

The South Florida Water Management District has also constructed thousands of acres of stormwater treatment areas.

In 1993 five federal departments and the US Environmental Protection Agency established the South Florida Environmental Restoration Task Force (Task Force) under the leadership of the Secretary of Interior. The purpose of the task was to "coordinate the development of consistent policies, strategies, plans, programs and priorities for addressing the environmental concerns of South Florida." Membership in the Task Force consisted of department secretaries or their designees (no less that Assistant Secretaries. This Washington-level group also created a Working Group of Florida-based senior officials from each of the agencies. The task force is designed to resolve major policy issues, while the working group is to handle coordination. During 1994-1995 the Task Force and Working Group recognized the need to work closely with State of Florida agencies and tribal nations (Miccosukkee and Seminole) but felt constrained by the Federal Advisory Committee Act.

In 1994 the Governor of Florida established the Governor's Commission for a Sustainable South Florida to "develop recommendations and public support for regaining a health Everglades Ecosystem with sustainable economies and quality communities. The Governor's Commission and the Task Force were both instrumental in creating the consensus later incorporated in the Comprehensive Everglades Restoration Plan.

In 1996 Congress passed the Water Resources Development Act of 1996. This Act clarified Congressional guidance to the Corps to develop a comprehensive review study for restoring the hydrology of South Florida. This study, commonly referred to as "the Restudy" provided the legal basis for the Comprehensive Everglades Plan. The Water Resources Act of 1996 also established the Task Force in federal law, and specified that the task force membership would include a member from each of the tribal nations, two representatives from Florida state government, a representative from the South Florida Water Management District, and two representatives of local government. The Act also exempted the Task Force and Working Group from Federal Advisory Committee Act constraints.

The Working Group hired an Executive Director and a small staff, located in Miami. In 1997 the Task Force established Project Coordination Teams in six regions within South Florida, which included representative from tribal nations, federal, state and local governments within those regions. Over the years, the Working Group has established protocols governing its workings, including a decision-making protocol. Under this protocol decisions within the Working Group are made by consensus, but with a provision for a two-thirds vote in case consensus cannot be reached.

The Working Group also established a massive science program designed to remove scientific uncertainties that made it difficult to formulate plans and also provide the monitoring necessary to practice adaptive management. By 2003 federal and state

agencies had spent \$576 million to conduct science research, monitoring and assessment in support of the project.

In August 1996 the Governor's Commission approved, by consensus, a conceptual plan intended to serve as a framework and vision for Everglades and natural system restoration. In 1999 The Corps of Engineers submitted to Congress a Restudy report of the Central and Southern Florida Project that laid out an overall plan for environmental restoration. The report included a Feasibility Study and Programmatic Environmental Impact Study. In 1999 - 2000 the Florida legislature enacted several pieces of legislation setting up a process for state review and authorizing the state to match federal funds for ecosystem restoration in South Florida, and designating the South Florida Water Management District as local sponsor of the project. It also approved early implementation of land acquisition necessary to implement the Plan.

In the Water Resources Development Act of 2000 Congress approved the Comprehensive Everglades Restoration Plan and authorized the initial funds to begin the project. The Act was signed by the President. Full implementation of the plan is expected to take more than 35 year, with a cost of \$7.8 billion. The project is the largest environmental restoration project in the nation's history, and possible the largest environmental restoration project in the world.

The plan calls for implementation of at least 60 individual projects. At the heart of the plan, though, is an effort to change the overall flow of water into areas requiring water for habitat protection. The plan will develop large quantities of surface and below-surface storage to capture stormwater runoff, and then will direct this water to targeted areas.

Prior to human intervention, the water flowed in sheets south from Lake Okeechobee to Florida Bay and the Gulf of Mexico, with some water also reaching Biscayne Bay. The effect of the Central and Southern Florida Project canals and levees was to drain these waters to the west and east coasts, which significantly reduced flows to Florida Bay. Investigation showed that with all the development that has occurred in South Florida it was impractical to completely restore the natural flow to the south. So the new plan provides for storing water and then sending it to the south and southwest to South Florida's remaining natural areas. Approximately 80% of the stored water will be used for environmental restoration. The other 20% will be a new water supply for agricultural and urban use

.



### Location of the restoration initiative



### Past flow

In the past, water flowed in a broad sheet south from Lake Okeechobee to Florida Bay and the Gulf of Mexico. Water also crossed the coastal ridge to Biscayne Bay.



### Present flow

Canals of the Central and Southern Florida project drain to the east and west coasts. Water in these canals does not drain to Florida Bay, and thus the bay has reduced water flows.



### Future flow

In the future, water will be stored and sent south and southwest to South Florida's remaining natural areas.

# South Florida Ecosystem Restoration

# Timeline

by project completion date

## Legend



Surface Water Storage



Sheet Flow



Water Quality



Wildlife Habitat



Exotic Species Control



Aquifer Storage



### 1985 through 2005



- Dupuis Reserve
- Nicodemus Slough
- . South Fork of the St. Lucie River
- Kissimmee Prarie
  Lake Walk in Water
- Corkscrew Regional Mitigation Bank
- **Tibet Butler Reserve**
- Loxahatchee River Land Acquisition • Ten Mile Creek Acquisition
- Ten Mile Creek Acquisition
- Cavo Costa

- Hobe Sound National Wildlife Refuge
- East Everglades Addition to ENP
- Kissimmee River lower basin
- Kissimmee River upper basin
   Big Cypress National Preserve Addition
- Crocodile Lake National Refuge
- Florida Keys National Wildlife Refuge Complex
- . J.N. "Ding" Darling National Wildlife Refuge
- A.R.M. Loxahatchee National Wildlife Refuge

### 2005 through 2010



- Lake Okeechobee Water Retention/Phosphorus Removal
- Henderson Creek/Belle Meade
- Miccosukee Tribe Water Management Plan



- Acme Basin B Discharge
- Everglades Agricultural Storage Reservoir Phase 1
- Seminole Tribe Comprehensive Surface Water Management System for Brighton Reservoir

## 2010 through 2015



- Broward County WPA, C-9 STA/Impoundment & Western C-11 Impoundment & Canal & WCA 3A/3B Levee Seepage Management
- Lake Okeechobee Watershed
- Everglades Agricultural Storage Reservoir Phase II



- Loxahatchee Impoundment Landscape Assessment
- **Wastewater Reuse Pilot Project**
- ake Park Restoration

### 2015 through 2020



- Florida Keys Tidal Restoration
- WCA-3 Decomp & Sheetflow Enhancement



- Bird Drive Recharge Area
- C-43 Basin Storage Reservoir
- Palm Beach County Agricultural Reservoir & ASR

## 2020 through 2040



- Site 1 Impoundment & ASR
- Indian River Lagoon South, C-23/C-24/C-25/Northfork & Southfork Storage Reservoirs & C-44 Basin Storage Reservoir
- Central Lake Belt Storage Area
- North Lake Belt Storage Area



Central Lake Belt Storage Area



Maintenance control achieved: Melaleuca; Brazillian Pepper; Australian Pine; Old World **Climbing Fern** 



• Ten Mile Creek



- STA-1 West Works
- STA-2 Works
- STA-5 Works
- STA-3/4



- Management Plan for 6 Species
- Estero Bay Aquatic
- Melaleuca Quarantine Facility
- Integration of Federal, State & Local Agency Invasive Exotic Control



- WCA-3A Hydropattern Restoration
- Southern Crew
- Dry Tortugas
   National Park General
   Management Plan
- Planning & Implementation of the Tortugas Ecological Reserve



- Modified Water Deliveries to ENP
- Southern Golden Gate Estates -Picayune Strand
- Canal 111
- **Kissimmee River Restoration**



- Modified Water Deliveries to ENP
- Southern Golden Gate Estates Picayune Strand
- Canal 111
- Kissimmee River Restoration



- **14 Additional Species** Management Plan
- Melaleuca Eradication Project & Other Exotic Plants



- Broward County WPA, C-9 STA/Impoundment & Western C-11 Impoundment & Canal & WCA 3A/3B Levee Seepage Management
- Total Maximum Daily Load (TMDL) Program
- STA-1E/C-51 West
- Lake Okeechobee Watershed



- Big Cypress/L-28 Interceptor Modification
- North PBC PIR Part 1
- Caloosahatchee Backpumping



- Hole in the Donut
- Florida Keys Tidal Restoration
- Flow to NW & Central WCA-3A(II)(RR)
- WCA-3 Decomp & Sheetflow Enhancement



- C-43 Basin Storage Reservoir & ASR
- Palm Beach County Agricultural Reservoir ASR



- Pineland & hardwood hammock restoration in C-111 Basin
- North Palm Beach County Part 2 Site 1 Impoundment & ASR
  - Lake Okeechobee Aquifer Storage & Recovery
- Habitat Projects Wildlife

- attah Flats/Ranch
  tic Ridge Ecosystem
  ock Ranch
  eld Farms
  Meade
  Oppress National Preserve
  vate Inholdings
  Send Swamp/Holopaw Ranch
  ayne Coastal Wetlands
  ayne National Park
  bing Range Ridge
  osahatchee Ecoscape
  ish Creek
  litch Harbor
  tuary/Flatwoods/Cape Haze
  vare Regional Watershed

  Area Coast Buffer/Water
  Preserve Areas
  Preserve Areas
  Pokechobee Battlefield
  Okeechobee Souher Glades
  Similar Staceon
  Pantler Glades
  Pantler G riotte Harbor ituary/Flatwoods/Cape Haze kscrew Regional Watershed pon Bight/Key Deer
- Key reek/Loxahatchee reek/Trail Ridge

- Loxahatchee Slough
   McDaniel Ranch
   Miami-Dade County Archipelago
   North Key Laro Hammocks
   Model Lands
   North Fork St. Lucie River

- Southern Glades
   Southern Golden Gate Estates
   Picayune Strand
   Twelve Mile Slough
   Upper Lakes Basin Watershed
   Upper Econ Mosaic

The Water Resources Act of 2000 included \$1.4 billion and authorized ten initial Everglades infrastructure projects, four pilot projects, and an adaptive management and monitoring program. It also granted programmatic authority for immediate restoration benefits at a total cost of \$206 million, and established a 50% federal cost share for implementation of the Comprehensive Environmental Restoration Plan and for operation and maintenance.

Figure \_\_\_ shows the major projects and the timeline for their completion. Many different agencies are involved in actual implementation. The State of Florida has purchased more than 207,000 acres of land -- more than 51% of the land needed to implement the plan – at a cost of nearly \$1 billion. The State also has a plan to accelerate the completion date on eight of the projects it believes are particularly important. The South Florida water Management District will finance construction with "Certificates of Participation" revenue bonding.

The regional study and several pilot studies have also been initiated. These will test the feasibility of large-scale aquifer storage and recovery and seepage management technologies. The Corps and its partners are currently in planning for 19 of the more than 50 individual projects.

In 2003 the Task Force established a Science Coordination Group to assist it in coordinating scientific and other research. The Task Force has also established a Combined Structural and Operating Advisory Committee which is a group of stakeholders, and non-voting agencies, that advise the Task Force. The South Florida Water Management District has also established a Water Resources Advisory Committee that advises it.

The District and the Army have also established a Dispute Resolution Agreement. This agreement allows either party to request escalation higher official for resolution. The issue is first escalated to the Corps District Engineer and the Executive Director of the South Florida Water Management District. There are strict time limits for how long the parties have to resolve the issue before it is escalated to a higher level. There are two additional escalation steps up to the Secretary of Army and the Director of the Florida Department of Environmental Protection. The parties can agree to the use of a mediator at any step in the process.

## **Interview with Study Manager**

# 1. Do you feel that you were well prepared and had the skills needed going into this study?

**Answer**: Yes. My many years of service in this district and other district's along with various formal training opportunities provided the preparation needed to be successful in this effort.

## 2. What training would you have taken or did you take to prepare for this level of collaboration?

**Answer**: Training that I did take: On the job training (over 20 years experience with the Corps) has really come in handy. Toast Masters was valuable for developing communication skills. Training in conflict management and negotiations has been very valuable. Training that helped me to understand our agency and other agencies has been invaluable. Basic training in leadership has been very important.

## III. COLLABORATION

## 1A. Who were the collaborators (internal to Corps & external)?

**Answer**: Primary <u>internal</u> collaborators include: ASA, ASA(CW) representatives, HQUSACE, SAD, Jacksonville District leadership and staff

**Answer**: Primary <u>external</u> collaborators include: Agricultural interests, Environmental Interests, South Florida Water Management District = non-federal cost share partner, Counties, NGO's, Native American tribes, Federal and State resource agencies

## 1B.What categories/types of stakeholders are most impacted?

**Answer**: Native Americans, Environmental, Agricultural, Developers, Recreational users, water dependent users, those impacted by flood damage reduction projects

2. What roles or levels of roles did they (from 1A) play & what types of resources did they bring to the table (i.e. enviro/economic; advisory/voting; technical review, funding; passive or active)?

**Answer**: South Florida Water Management District is a 50/50 cost share partner with the Corps. They bring in technical support, provide information on ways in which the project does or may affect their particular sector, provide political and public support for the project and generally make the project better through comments and suggestions

## 3. What written or unwritten expectations existed among the collaborators?

**Answer**: see website for the written documents http://www.sfrestore.org

## 4A. How were final decisions decided as the study moved from one milestone to the next?

**Answer:** Final decisions are made by the Quality Review Board. This includes the Commander of SAJ, Executive Director of the South Florida Water Management District with input from the Everglades National Park, USFWS and Senior Executives from the Department of Interior. At the project level, each project has to PM's. One PM is from

the Corps and one is from the Water Management District. They can make project level decisions if they aren't elevated.

## 4B. Were the collaborators satisfied with this process?

**Answer**: This is a broad collaborative effort. Most of the major decisions leading up to this restoration were made with total consensus. Overall, the collaborators have been satisfied with the approach.

## **IV. TOOLS & METHODS**

## 1. What methods, approaches, or tools did you use to identify collaborators & establish a collaborative framework?

**Answer:** Formal letters were sent to agencies. A contractor was hired to help identify groups that needed to be included. Then a server called the CERP Zone was made available to anyone with the pass code. All the data, reports and current information is available in real time. We used web based teleconferences and established a website.

# 2. What was the framework or structure that was used? (i.e. types of committees/ sub committees)?

**Answer**: see website

# 3. What tools, methods, techniques, ground rules or approaches were used to facilitate continued & ongoing collaboration?

**Answer**: The CEQ's Institute of Environmental Conflict Resolution worked with the group to develop a set of "rules of engagement" at the beginning. Later, a Florida based firm was hired to mediate discussions and meetings. Eventually, the collaborators were able to continue without outside mediation.

### 4. What tools, methods, techniques and etc. were used to facilitate collaboration?

Answer: Same as above

## 5. Was there any tool, approach, method that did not work well or that you would not recommend?

Answer: The Corps and the South Florida Water Management District were going to have one unified budget and schedule that could be engaged in real time on the CERP Zone. A lot of time and energy was put into making this happen but in the end it failed because the SFWMD was on a different fiscal calendar, used their financial management system for pay roll and the Corps adopted P2. The way the two partners used their financial systems and the purposes of them were not entirely compatible.

Now, the Corps and SFWMD keep two separate financial systems and share hard copies with each other to track major milestones.

## V. COSTS & BENEFITS

# 1. What were the costs (time/\$/etc.) & what were the benefit of using the collaborative approach?

#### Answer:

Costs: obviously on an effort of this magnitude the costs in time and dollars are substantial and must be planned for when developing Project Management Plans and other appropriate documents.

Benefits: The Corps doesn't have all of the information internally that we need to take on an effort like this. We need the technical input from others who are much more abreast of the natural resources issues. Without reaching to a broad technical group we would miss major pieces of the problem identification and recommended plan. Also, you need this kind of strong partnership to obtain broad support to receive such a high level of funding from congress.

2. Why did you choose to plan collaboratively? (why it's worth it?)

**Answer**: We would fail totally without this type of approach. We would never be able to understand the problems, develop a viable recommended plan and obtain the funding necessary to implement the plan with out this collaborative planning.

### **VI. LESSONS LEARNED**

1. What obstacles (Corps policies, other agency policies, etc.) had to be overcome to facilitate the collaborative framework?

**Answer**: There are Corps policies and other agency policies that make collaboration a challenge. Also, Corps culture is very protective. When the law suits started to come, the agency became less open, started meeting more behind closed doors and became much more formal. Under pressure, the collaboration became much more narrow.

2. Would things have turned out differently if a less engaging less collaborative approach was taken?

**Answer**: We would never have gotten off the ground

3. If you had to do it all over again, what would you have done differently with respect to who and how collaboration was implemented?

**Answer**: We would have not spent a lot of time trying to develop a single financial management system for the Corps and the SFWMD

## 4. Do you have any other lessons learned or comments?

**Answer**: We have to remember that we don't have all of the answers. Collaboration makes our understanding of the problems much more complete and allows us to develop the best solutions to address them. We also need to strive to understand where other agencies and groups are coming from. They may have a different view but it is usually for a good reason. We should understand how other organizations work and what the forces are that drive them to make decisions.

## Eugene-Springfield Metro Waterways Study Lane County, Oregon Portland District



**Key Issues:** Watershed Planning, Integrated Water Resources Planning, Urban Rivers, Funding Strategies

# Eugene-Springfield Metro Waterways Study Portland District, Oregon

## General Background

The Eugene-Springfield metropolitan area is located in the southern end of the Willamette River Valley in northwest Oregon (Figure X-1). Nearly 2.2 million people reside in the Willamette Valley which is home to seventy percent of the residents of the state. Most of these residents live in the cities of Portland, Salem, Albany/Corvallis, and Eugene/Springfield.

The southern Willamette valley was originally settled by the Kalapuya. These Native Americans foraged and hunted for food throughout the valley and were the first to impact the resources through large scale management. The Kalapuya burned grasslands in the late summer and fall to create open prairies and savannahs for the production of food for the wildlife they depended on.

From 1850 to 1900 settlers from the east colonized the Willamette Valley, dividing the land into quarter mile sections. During this time, cities and agricultural communities became established. Agriculture was the primary land use during this 50 year period and farming activities became the major source of human impact on the environment.

Over time, timber production in the upper watershed areas throughout the valley became the leading industry. The rich forest resources became vital to the economic stability of the region. Both the timber industry and the growing cities and towns produced new environmental consequences.

The various stages of the Willamette River Project were developed to protect human lives, infrastructure and investments. This project included 13 dams, flood walls and navigation channels and structures which further impacted the environment by blocking the movements of migratory fish such as various species of salmon and through impacts to water quality.

In recent times, many of the local communities along with state and Federal resource agencies have understood the need to address the environmental challenges related to the settlement and development of the Willamette River Valley. The local communities have worked hard to achieve a healthier environment while producing a high standard of living.

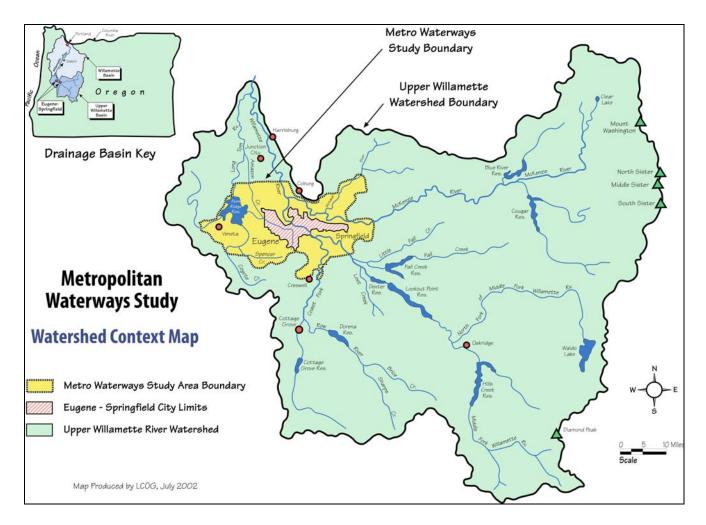


Figure X-1: Eugene-Springfield Metro Study Area

Lane County, the cities of Eugene and Springfield, four area watershed councils (the Coast Fork, Long Tom, McKenzie and Middle Fork councils), and other supportive groups and organizations have made impressive efforts in:

- Land use planning
- Flood protection and storm water management
- Water quality and drinking water management
- Public use and open spaces
- Habitat and species conservation
- Watershed management

These communities are also noted for their strong interest in recreation, education, and cultural and aesthetics considerations.

Many of the water resources issues the communities have wrestled with in their planning efforts are related to, or driven by, Federal and state laws such as endangered species protection, safe drinking water, flood protection, wetlands protection, and water

quality. Over time the local communities have concluded there was very limited effectiveness in continuing to approach water resource issues from any single objective or viewpoint. The county government, the two cities, and other stakeholders in the Eugene – Springfield metro area agreed that a systems approach would be the most affective way to achieve their collective goals. As a result, the communities entered into an agreement with the Portland District to conduct the Eugene – Springfield Metro Waterways Feasibility Study.

The study area, which is located in Lane County, consists of approximately 240,000 acres in and around the Eugene-Springfield area. The study area also includes other towns such as Veneta, Junction City, Coburg, Marcola-Mohawk, Creswell, and Goshen (Figure X-1). It contains 600 miles of water ways consisting of portions of four major watersheds including the Long Tom River, Coast Fork of the Willamette River, Middle Fork of the Willamette River and the McKenzie River.

The challenge the Corps faces in this study is to develop a systems-based plan that effectively integrates the many water resources demands while incorporating the existing programs and ongoing efforts of the multiple levels of government agencies and stakeholders in the region. To meet this challenge, the Portland District recognized that a highly collaborative approach would be necessary to produce a quality product that would achieve broad acceptance and facilitate the actual implementation of the plan.

To promote this collaborative approach, the Corps established an organizational framework that incorporated existing committee structures and prevented redundancy in the planning effort (Figure X-2). In addition, the Portland District took advantage of other initiatives of both Federal and local governments to promote the maximum amount of collaboration and secure ongoing funding sources.

One example is the Urban Rivers Restoration Initiative. This initiative was established in an MOU between the Corps and the U.S. Environmental Protection Agency. The MOU commits the two agencies to work more closely together on the restoration of urban rivers throughout the country.

The Corps district also worked closely with a local effort called the "United Front". The United Front is organized by the Lane County Council of Governments (LCCOG). The goal is to establish a unified approach towards Federal priorities within Lane County. In addition to LCCOG, this group includes the cities of Coburg, Eugene, and Springfield; the Springfield Public Schools; Lane County; and the Lane County Transit District. Rather than independently requesting Federal funding in a competitive manner, the members of the United Front work together each year to develop a single document entitled "Lane County, Oregon – Federal Priorities". Signed by the Executive Level of each local government entity, this document is provided to the Oregon Congressional Delegation and congressman who are on key committees on Capitol Hill. By approaching Congress each year in an organized way as a "united front", this group has been very successful at receiving Federal support for their planning efforts, civic programs and capital projects.

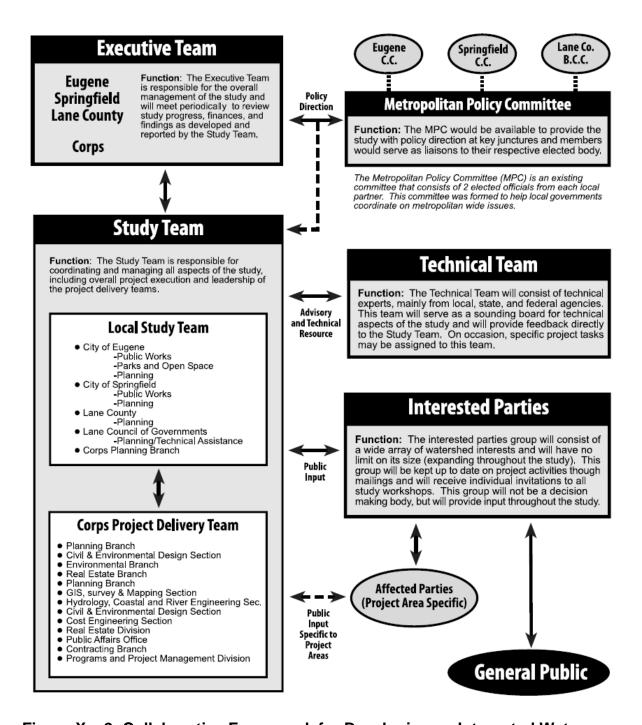


Figure X – 2: Collaborative Framework for Developing an Integrated Water Resources Management Plan for the Eugene-Springfield Metro Waterways Study

The Eugene – Springfield Metro Waterways Study has been under way for three years. By focusing on an integrated and collaborative approach towards planning, the Portland District is successfully working to develop broad acceptance of a blueprint for managing the water resources into the future. As a result of this approach, the district has

developed the trust and support of the government agencies and local communities involved in this challenging effort.

## Interview with Study Manager

# 1. Do you feel that you were well prepared and had the skills needed to coordinate this study?

**Answer:** Yes, primarily because I had previous experience working with the Corps in Engineering, Project Management and Planning. Also, I was fortunate to have the opportunity to work on smaller Continuing Authorities Program projects before taking on a watershed scale study. The on-the-job training was critical to prepare me for an effort of this magnitude.

## 2. What training would you have taken or did you take to prepare for this level of collaboration?

**Answer:** The most important training for me was on-the-job training and mentoring that I received from more experienced colleagues. As for training that I would like to have had, a class that teaches how to conduct watershed studies would have been very helpful.

# 3. Who were/are the collaborators in this study both internal and external to the Corps?

**Answer:** Primary <u>internal</u> collaborators include the members of the Portland District Project Delivery (see Figure X-2). Also, this study is located in the upper portion of the Willamette River Basin. There are many other members of NWP working on projects in the Basin and involved in Basin wide water management.

**Answer:** Primary <u>external</u> collaborators include: 1) Lane County, Oregon; 2) The City of Eugene; 3) The City of Springfield; 4) The Lane County Council of Governments; 5) The Eugene Water and Electric Board; and 6) the many agency representatives from all levels of government.

## 4. What categories/types of stakeholders are most impacted?

**Answer:** There are many types of environmental stakeholders such as those interested in: 1) ecosystem restoration; 2) Federal and state listed rare, threatened and endangered species; and 3) water quality. Other types of stakeholders are interested in water front beautification, recreation, flood damage reduction, business opportunities, transportation and hydropower.

# 5. What roles did the collaborator's play and what types of resources did they bring to the table?

**Answer:** Collaborators are part of the study team or participants on policy, technical or public interest advisory committees. They bring funds, technical capabilities, existing data and reports, organization and coordination capabilities, and public outreach skills to the table.

## 6. What written or unwritten expectations existed among the collaborators?

**Answer:** Documenting expectations is a very important aspect of successful watershed planning. We spent a considerable amount of effort developing and finalizing a charter.

## 7. How were/are final decisions made regarding this effort?

**Answer:** We strive to make as many decisions as possible through achieving a group consensus. In the end, the management team approves major decisions.

## 8. Were/are the collaborators satisfied with this process?

**Answer:** Yes, so far it seems that the collaborators are happy with how things are being handled.

# 9. What methods, approaches, or tools did you use to identify collaborators and establish a collaborative framework?

**Answer:** First, we established points of contacts with the potential non-Federal sponsors. After that we networked through the sponsors and held meetings to figure out who needed to be represented.

## 10. What was the framework or structure that was used to organize the collaboration?

**Answer:** We established an Executive committee, Technical committee, Management committee plus had meetings to engage the public (Figure X-2). Over time we started developing a committee structure to provide public input. The roles and responsibilities were documented so that everyone was aware of the expectations.

# 11. What tools, methods, techniques, ground rules or approaches were used to facilitate continued & ongoing collaboration?

**Answer:** First, these relationships had been established through other successful efforts. Having those successes to build on was very helpful. Second, the overall commitment to an integrated and collaborative approach by the Portland District helped set the framework for a successful ongoing effort.

## 12. What tools, methods, techniques and etc. were used to facilitate collaboration?

Answer: Initially, documentation was developed to serve as a foundation. This includes the Project Management Plan, Charter and later the Existing Conditions Report. We also used various types of meetings. First, we established the pattern of holding monthly team meetings. Since the Lane County Council of Governments had played a vital coordination role in the county for years, we utilized their existing capabilities and they planned and coordinated the meetings. A second type of meeting that was very effective was a two day charrette. We used this when developing the Existing Conditions Report. It allowed everyone to get away from the distractions of the office and really focus on what we were trying to accomplish. It also was a great team building time. Finally, we held public meetings that were really affective at obtaining stakeholder input.

## 13. Was there any tool, approach or method that did not work well or that you would not recommend to others?

**Answer:** Yes, when we were first scoping the Project Management Plan we had members of the Corps PDT attempt to work independently with their counterparts in the collaborating agencies. They were working in a non-facilitated environment and it was difficult to move things forward in an efficient and cohesive way. When everyone was brought together in an organized facilitated meeting framework there was much more success.

# 14. What were the costs (time/\$/etc.) and what were the benefit of using the collaborative approach?

**Answer:** The collaborative approach requires more time and money upfront than a more narrow approach. However, a study like this could not ever survive without this approach. Also, a collaborative approach saves time and money over the duration of the study, builds the trust necessary for the study recommendations to be implemented and makes the final product much more complete.

## 15. What obstacles (Corps policies, other agency policies, etc.) had to be overcome to facilitate the collaborative framework?

**Answer:** There haven't really been any obstacles at this point.

# 16. Would things have turned out differently if a less-engaging less-collaborative approach was taken?

**Answer:** Yes, there would have been more arguing, less support and good will leading to loss of time or total failure in the long-run.

# 17. If you had to do it all over again, what would you have done differently with respect to who and how collaboration was implemented?

**Answer:** When members of the Corps PDT attempted to work independently with their counterparts in the collaborating agencies in a non-facilitated environment, things didn't move forward well. When everyone was brought together in an organized facilitated meeting framework there was much more success.

### Lessons in Collaboration to Consider

- 1. Help the non-Federal partners understand and fully utilize the Federal budgeting process. In a watershed context, there are multiple stakeholders involved. When they organize and work together for funding priorities throughout the watershed and approach the political system as a "united front" instead of competing interests, the entire partnership benefits from it.
- **2.** Take the time to develop a document, like a charter, to establish the roles and responsibilities of each of the collaborators and to make sure that everyone has realistic expectations. The time spent will pay off in several ways including building relationships among the groups and gaining consensus on how decisions are going to be made as the study moves forward.
- **3.** When starting a new study, utilize existing organizational structures whenever possible. This reduces redundancy and allows collaborators to function in an environment in which they have already comfortable.
- **4.** Facilitated meetings are a very effective way to move the study process forward. Also, it can really be beneficial to plan an event out of the office like a charrette or forum. This allows the group to take a day or two to focus in on what they are trying to accomplish and serves as a great team building event.

# Harris County Flood Reduction Project Harris County Flood Control District Galveston District



**Key Issues:** Local Sponsor Lead In Design and Construction of Project; Corps Policies for Reimbursement; Flood Control; Hurricanes

# Harris County Flood Damage Reduction Projects Galveston District, Texas

## **General Background**

The Harris County Flood Damage Reduction Projects are unique because they are the first Corps projects where the local sponsor, not the Corps, took the lead in planning, designing and construction three projects, obtaining reimbursement from the Corps for the 50% federal share.

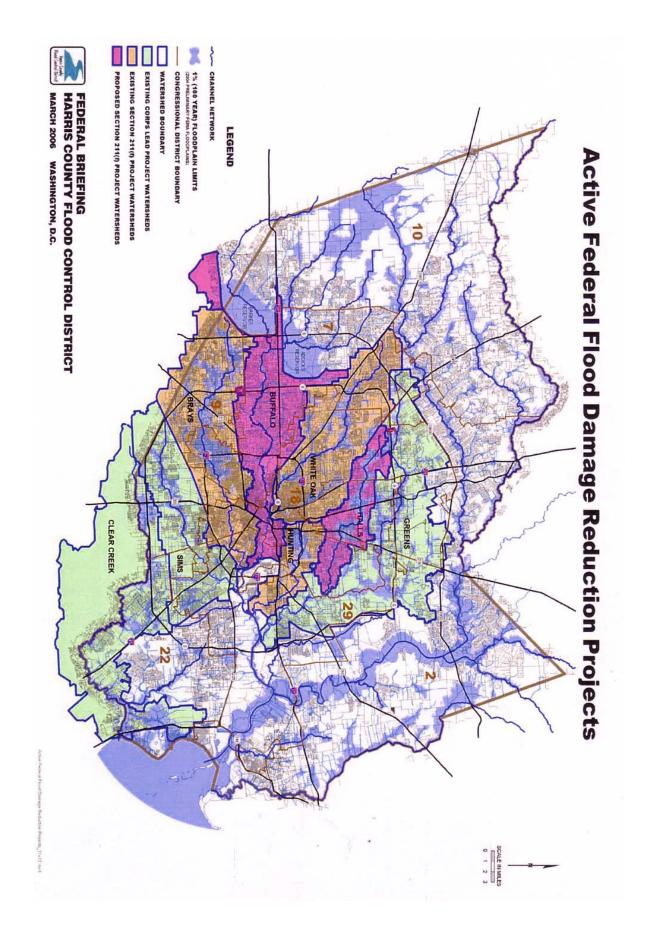
The Harris County Flood Control Project is a special purpose district created by the Texas Legislature in 1937 in response to devastating floods that struck the region in 1929 and 1935. Harris County is one of the largest counties in the US, including 1,756 square miles. It contains a population of 3.7 million, including the City of Houston. There are 22 primary watershed within the county, each with its own independent flooding problems. Major flooding occurs particularly during occasional hurricanes, which often bring very large quantities of rainfall in short periods of time.

There are nine federally authorized projects within the Flood Control District. Six have been completed and three are under construction. Many of these projects were authorized in the 1980s-90, although the authorization for one goes back to 1954. Several of the studies are General Revaluations.

The Flood Control District has taken the lead on the Brays Bayou, Hunting Bayou and White Oaks Bayou projects (See Figure \_\_\_). These projects primary involve construction of detention basins, channelization, and environmental enhancements. The Brays Bayou project also involves an instream control structure. These projects would prove 1:100 year flood protection.

The Corps has taken the lead and is nearing completion on the Sims Bayou, Clear Creek and Greens Bayou Projects. The Flood Control District is completing reconnaissance studies for Halls Bayou and Buffalo Bayou, and will take the lead for design and construction of these projects.

In 1996 Army decision makers in Washington DC briefly considered having the Corps get out of flood drainage projects that didn't cross state lines. During this period the Flood Control District concluded that it could build its own project just as well, and possibly faster and cheaper. As a result, the Flood Control District helped sponsor language in the Water Resources Act of 1996 that allows the local sponsor to take the lead in planning, design and construction of projects [WRDA 1996 – Section 211(f)]. Corps rules and processes have to be followed, and the Corps monitors and approves the work. The 50/50 cost sharing formula remains the same, and the sponsor is reimbursed the federal share.



Following passage of WRDA 1996 the Flood Control District and Galveston District took more than a year of bi-weekly meetings to hammer out how the process would work. The fundamental problem was that Corps rules and ECs were never written with the expectation that the local sponsors would take the lead, so considerable adaptation and accommodation had to occur. Initially the Corps was somewhat concerned about loss of budget and staff. In addition, the Flood Control District had a considerable learning curve to understand all the Corps rules and procedures. Ultimately the discussion between the districts and Corps HQ resulted in a Policy Guidance Letter (PGL) addressing Section 211 F of the Act. A key issue was how often reimbursement would occur, which is not specified in the Act. Initially it appeared that the project would have to be completed before the local sponsor would receive reimbursement. But they were able to reach agreement that reimbursement could occur upon completion of discrete segments of the project.

The Flood Control District has discovered that when it does planning following all the Corps rules and procedures it is unable to do planning any faster than the Corps. There is a modest cost savings because they've found that contractors quote them somewhat lower rates than they do the Corps, apparently because they have to deal with more bureaucracy with the Corps.

On the other hand, it is worth it to them because once the design is done and approved they can proceed directly to construction. They don't have to wait for Congressional authorization. That does mean they have to accept the risk in case Congress does not authorize the project. This means that only District's with substantial financial capability can profit significantly from use of Section 22(f). Also, they have to be willing to work at the Washington DC level with the ASA, OMB, and Congress to get their authorization.

The Flood Control District has been reimbursed 100% for all its invoices, although on occasion it has had to wait until the next fiscal year before payment. But they've never waited longer than 6 months. They've also found that their knowledge of Corps procedures has helped them work more effectively with the Corps on other projects. Also, there's been enough work so that it has actually be advantageous for them to take on some of the projects, and for the Corps to take on others. This has actually expanded their capacity to handle more work.

All of the projects do involve multiple jurisdictions besides the Flood Control District. The Flood Control District prefers to handle the local consultation and public participation itself. It feels it has more expertise than the Corps in these areas, because they have to do a lot of it with all their projects.

### Interview with Study Manager

[Because implementation of the Harris County Projects was carried out by the Harris County Flood Control District, this interview was conducted with Steve Fitzgerald, Chief Engineer, Harris County Flood Control District.]

# 1. Do you feel that you were well prepared and had the skills needed to coordinate this project?

**Answer:** I really didn't understand the Corps process as well as I thought I did. I had a lot of experience in collaborating on a local level which I found to be much more straight forward.

## 2. What training would you have taken or did you take to prepare for this level of collaboration?

Answer: I attended many meetings with the Galveston District, Southwest Division and Headquarters to get a better feel for how to best function as a partner with the Corps. I benefited greatly from taking a two day course along with the Galveston District called Planning 101. I also got a lot out of a PROSPECT course called Planning Principles and Procedures. It has also been very helpful to attend all of the Economics and Environmental Conferences and more recently the Planning Community of Practice Conference.

# 3. Who were/are the collaborators in this effort both internal and external to the Corps?

**Answer:** Remember, we have many projects with the Corps and are part of a special program from section 211 (f) of WRDA 1996 that allows the local sponsor to take the lead on some planning studies. These projects have included dozens of additional local collaborators. Also, within the Corps, we consider there to be multiple collaborators as well, including the district, division and headquarters.

### 4. What categories/types of stakeholders are most impacted?

**Answer:** Our primary function is to provide flood damage reduction. We strive to do that in the most environmentally sound way as possible. In fact, we now include environmental factors as being extremely important. Stakeholders include home owners, businesses and people interested in environmental issues. If you think about it, everyone in our county is impacted by flooding. So, there isn't any group that doesn't have a stake in these projects.

# 5. What roles did the collaborator's play and what types of resources did they bring to the table?

**Answer:** There were varying levels of roles depending on the particular study or project. In some cases, Harris County had the lead and the Galveston District gave input. Other studies were more traditional where the Corps district had the lead. In any case, we worked hard to hold many meetings, educate the public and obtain as much input as possible on the studies as we moved forward.

### 6. What written or unwritten expectations existed among the collaborators?

**Answer:** We focused on having written expectations so that everything would be well documented. For example, for the Clear Creek Steering Committee, we developed bylaws.

## 7. How were/are final decisions made regarding this effort?

**Answer:** The Corps and local cost sharing partners made final decisions with input from stakeholders.

### 8. Were/are the collaborators satisfied with this process?

**Answer:** We have had very good relationships among the collaborators. Most of the time participants have been happy with the process but not always.

## 9. What methods, approaches, or tools did you use to identify collaborators and establish a collaborative framework?

**Answer:** We hire professionals to take the lead in public outreach. We also take a very proactive and engaging approach to inform the public and get them involved.

## 10. What was the framework or structure that was used to organize the collaboration?

**Answer:** We have used various committee structures depending on the situation. There is usually some type of leadership committee that then engages with other groups to move forward. We found that very large groups are useful for communicating information but that smaller groups of 30 or less are more effective for getting work done.

# 11. What tools, methods, techniques, ground rules or approaches were used to facilitate continued & ongoing collaboration?

**Answer:** The primary challenge to facilitating ongoing collaboration is the slow nature of the Federal process. It's hard to keep folks engaged in anything for 7-10 years. However, we stay dedicated to the collaborative process and continue to be very proactive in keeping the appropriate parties involved. In some cases, it's hard to get the environmental agencies engaged early on. This makes it difficult later when they want to recommend significant changes to the plan.

## 12. Was there any tool, approach or method that did not work well or that you would not recommend to others?

**Answer:** At times, the Corps' approach to their internal relationships was not as effective as they could be. The different levels (district, division, and headquarters) did not always feel comfortable with providing a free flow of information with one another.

As the non-Federal partner, we felt that a more proactive approach towards communication would be beneficial.

# 13. What were the costs (time/\$/etc.) and what were the benefit of using the collaborative approach?

**Answer:** Obviously, a considerable amount of funds go towards implementing and maintaining an effective collaborative process. However, we are convinced that without it we won't get anything done. In the end, we have been able to utilize the process to make the projects better and secure substantial amounts of funds.

## 14. What obstacles (Corps policies, other agency policies, etc.) had to be overcome to facilitate the collaborative framework?

**Answer:** The different levels within the Corps struggle to communicate with one another in an efficient manner. In addition, the Corps changes priorities often so you never know if your project is going according to schedule or being put on the backburner as a result of the latest change in priorities.

# 15. Would things have turned out differently if a less engaging less collaborative approach was taken?

**Answer:** We would have failed to accomplish anything.

# 17. If you had to do it all over again, what would you have done differently with respect to who and how collaboration was implemented?

**Answer:** We would have made sure that the citizens' watershed groups were well engaged from the beginning. We also would have done a better job documenting our relationships with the environmental agencies so that we didn't have to start over at square one every time there was a change in personnel.

### **Lessons Learned**

- 1. Go out and engage the public groups often. They need to get to know you and you need to get to know them so that you can trust each other and the groups/agencies that are represented.
- 2. Get the citizens who live in the project area involved in as many ways as possible. For example, when doing test runs along a particular bayou, they asked citizens to go in their back yards and take pictures of where the water was located.
- 3. As a non-Federal partner, become fully integrated with the Federal agencies we are engaged with. Strive to be involved in the important and pertinent Corps activities just as if we were in the Corps ourselves. Participate in the appropriate meetings, conferences and trainings and work to be knowledgeable about all related laws and policies.
- 4. Keep all elected officials informed of the progress being made and of any issues where they can be of help. For example, every year they put together a briefing packet that allows their officials to see the steady progress being made and plans for the near and distant future.

51

# Illinois River Basin Restoration Study Illinois, Indiana, and Wisconsin Rock Island District



**Key Issues:** Basin-Wide Studies, Ecosystem Restoration, Complex Organizational Structure

# Illinois River Basin Restoration Study Rock Island District, Illinois

## General Background

The Illinois River basin extends northeast from its confluence with the Upper Mississippi River at Grafton, Illinois to its headwaters in Waukesha County, Wisconsin; Chicago, Illinois; and St. Joseph County, Indiana (Figure X-1). It covers thirty thousand square miles of which one thousand square miles are in Wisconsin, three thousand two hundred square miles are in Indiana, and more than twenty-five thousand square miles are in Illinois.

The Illinois River is a nationally important waterway connecting the Upper Mississippi River to the Great Lakes. There are 8 locks along the waterway between Grafton and Chicago Harbor at Lake Michigan. Channel depths along the waterway are maintained at 9 feet. In 2004, 45 million tons of commodities were transported along this waterway. Additionally, the river provides water supply to both residential and industrial users and assimilates the waste of the many metropolitan communities in the basin. More than eleven million people live in the Illinois River basin which includes 90% of the population of the State of Illinois. In addition to its economic importance, the basin is also a valuable ecological resource.

The Illinois River basin is part of the Mississippi River Flyway. The flyway is utilized by forty percent of all of the waterfowl in North America. A study conducted by the Illinois Natural History Survey in 1994 found that eighty-one percent of the fall waterfowl migration in the Mississippi Flyway utilized the Illinois River. The river also provides habitat for 35 mussel species and 115 fish species of which ninety-five percent are native. Many of these species don't exist anywhere else in the world. Of particular note are the ancient fish species that utilize the Illinois River such as the paddlefish and sturgeon. Even though the Illinois provides valuable habitat for so many important and unique species, it has been significantly degraded by human impacts over the past two centuries.

The ecological integrity of the Illinois River basin has been degraded by sedimentation of backwaters and side channels, degradation of tributary streams, increased water level fluctuations, reduction of floodplain and tributary connectivity, stressors associated with development and agriculture, as well as flood damage reduction and inland navigation projects constructed by the Corps and others. The decline in ecosystem health has resulted in the nearly total loss of the aquatic plant beds in the lower portion of the river, a significant decline in the numbers of macro-invertebrates, and a threat to the population viability of both state and federally listed species.

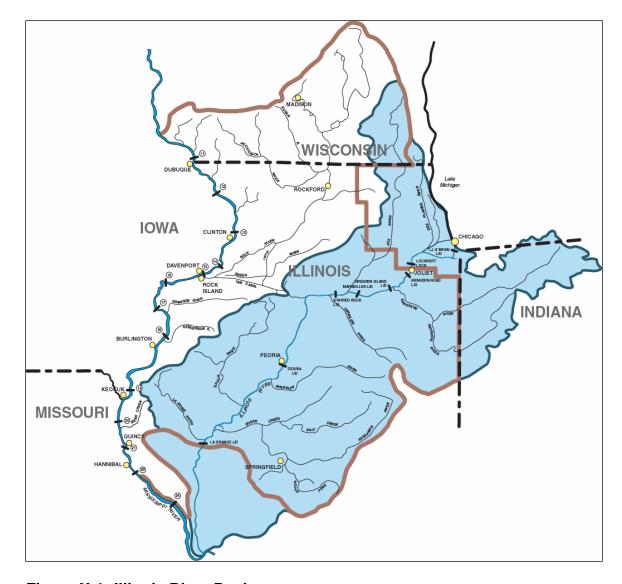


Figure X-1: Illinois River Basin

Despite experiencing severe ecological degradation, the Illinois River Basin remains one of the most ecologically productive ecosystems in the Midwest and has a high potential for restoration. The National Research Council identified the Illinois River as one of the three large floodplain river systems in the lower forty-eight states with the potential to be restored to an approximation of its biological past. With that in mind, the Corps entered into an agreement with non-Federal sponsors to develop a Comprehensive Plan to restore the ecological integrity of the Illinois River.

The challenge in developing the plan is that there were many Federal, state and local government agencies active in the watershed and many ongoing programs and studies related to the environment, navigation, flood damage reduction and other issues. In addition, non-governmental organizations such as The Nature Conservancy and Ducks Unlimited are active in the basin. There were many stakeholders with diverse and, at times, conflicting interests in the basin. As a result, the Corps understood that a high level of collaboration would be essential for developing an effective comprehensive plan.

54

The study area incorporates parts of two Corps Divisions (MVD and LRD) and four Corps Districts (Rock Island, St. Louis, Chicago, and Detroit). An MOU was developed to establish the roles and responsibilities of the different commands within the Corps.

In order to facilitate the collaboration between the many levels of government agencies, academia, non-governmental organizations and diverse stakeholder groups, the Corps established a fairly complex organizational structure (Figure X-2).

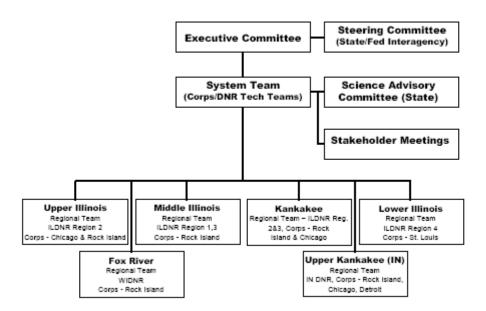


Figure X-2 Illinois River Study Organizational Structure

An Executive Committee, chaired by MVD, was established to provide oversight on the management and implementation of the program, including decisions on project funding. A Steering Committee, co-chaired by the Corps and the Illinois Department of Natural Resources, was formed to function as the interagency group responsible for coordinating the Illinois River Basin activities including the ecosystem restoration efforts. The System Team was developed to be the primary group responsible for overall project delivery and system-wide evaluations. The five Regional Teams were given the primary responsibility for evaluating and implementing the "critical restoration" projects within each region. The Science Advisory Committee was a pre-existing sub-committee of the Illinois River Coordination Council. This committee was incorporated into the organizational structure to provide technical input to the System Team. Finally, stakeholder meetings were held approximately once each year in each of the regions and when interim products were completed. The primary purposes of these meetings were to facilitate public involvement, information sharing, and dialogue amount the many groups with diverse interests in the river.

With this organizational structure in place, the study team was able to engage the full range of partners and interest groups early-on to establish the study goals. This helped

get buy-in and build a collaborative atmosphere, and also resulted in better goal definition. The goals developed for the study were:

- 1. Reduce sediment delivery to the river from upland areas and tributary channels;
- 2. Restore aquatic habitat diversity of side channels and backwaters;
- 3. Improve floodplain, riparian, and aquatic habitats and functions;
- 4. Restore longitudinal connectivity on the Illinois River and its tributaries;
- 5. Restore Illinois River and tributary hydrologic regimes; and
- 6. Improve water and sediment quality to the river and its watershed.

The Corps has been able to successfully develop a quality comprehensive plan that incorporates a full range of programs throughout all levels of government and with non-governmental organizations. As a result, the Illinois River Basin and our nation will benefit from a far more complete restoration effort than what the Corps would have been able to do alone within its own authorities.

## Interview with Study Manager

# 1. Do you feel that you were well prepared and had the skills needed going into this study?

**Answer:** Yes, primarily as a result of excellent mentoring, five years of previous experience with planning in the Rock Island District and the knowledge I gained in the Planning Associates Program.

## 2. What additional training would have helped you to prepare for this level of collaboration?

**Answer:** It would be really helpful to hold lessons-learned forums at Planning conferences to learn from similar efforts. Adequately funded fully functioning Centers of Expertise would make a big difference.

# 3. Who were/are the collaborators in this effort both internal and external to the Corps?

**Answer:** Primary <u>internal</u> collaborators include: The Division Offices at MVD and LRD; four USACE Districts including Rock Island, St. Louis, Chicago, and Detroit; and all of the Project Delivery Team members.

**Answer:** Primary <u>external</u> collaborators include: Illinois EPA, Illinois Department of Agriculture, Illinois DNR, State of Indiana DNR, State of Wisconsin DNR, USDA NRCS, USDA Farm Service Agency, U.S. Fish and Wildlife Service, U.S. EPA, U.S. Geological Survey, and many other groups such as: a) Local Governments, b) Soil and Water Conservation Districts, c) non-governmental organizations including Ducks Unlimited and The Nature Conservancy, and d) Levee and Drainage Districts.

## 4. What categories/types of stakeholders are most impacted?

**Answer:** In addition to the partners already mentioned, other stakeholder interests included:

- flood control for agricultural purposes
- o inland navigation: steel mills, building products, agriculture (corn/soybean)
- o urban and regional planning groups
- o native American tribal issues exist to a minor extent
- o environmental advocates
- o ecosystem restoration groups
- o ecosystem partnerships such as watershed groups and other community groups
- o recreational groups duck hunting clubs and fishing groups

# 5. What roles did the collaborators play and what types of resources did they bring to the table?

**Answer:** The collaborators provided cost-shared funds for the study, critical technical expertise, institutional knowledge, and extensive manpower to produce the comprehensive plan. In addition, the collaborators have a key role in the future success of and implementation of the plan.

### 6. What written or unwritten expectations existed among the collaborators?

**Answer:** The roles and responsibilities of each committee were documented in writing. This helped everyone understand the expectations and the decision making process. It was also understood that members of the regional team could attend and give input at the systems team meetings even if they weren't officially a member.

## 7. How were final decisions decided as the study moved from one milestone to the next?

**Answer:** Before any significant decision was made, the steering committee would make a recommendation to the executive committee. However, it was understood that all final decisions would be made at the executive committee level.

### 8. Were the collaborators satisfied with this process?

**Answer:** Yes, it seemed that everyone was comfortable with the process.

## 9. What methods, approaches, or tools did you use to identify collaborators and establish a collaborative framework?

**Answer:** For the most part, this information was already known and available because integrated management of the river system already existed. However, we did utilize a large mailing list and held scoping meetings. In addition, there is an Illinois River Coordinating Council. This Council consists of the Secretaries of five state agencies and

the Lt. Governor for the State of Illinois. They meet to coordinate activities at the highest level of state government and too hold public meetings. Working with pre-existing organizational groups was very effective.

## 10. What was the framework or structure that was used to organize the collaboration?

**Answer:** See Figure X-2 above.

# 11. What tools, methods, techniques, ground rules or approaches were used to facilitate continued and ongoing collaboration?

**Answer:** First, an MOU was developed between the Corps Divisions and Districts that participated in the study. This clarified the approach that was being taken and helped to coordinate and clarify the roles of all Corps elements. Second, regular meetings were held to communicate information and maintain momentum. Probably, most importantly, the meetings that were held at the beginning of the study were led by a facilitator whose job it was to encourage full participation of the stakeholders in defining the objectives. Encouraging stakeholder participation from the beginning helped accomplish early byin.

## 12. Was there any tool, approach, or method that did not work well or that you would not recommend?

**Answer:** Initially we had extremely large broad-based working meetings that included all interested parties. It didn't take long to realize that we weren't going to make very much progress with that approach. We found that smaller more focused groups were more effective at getting work done and large meetings should primarily be used for information. When we did have larger group meeting, we often broke up into smaller sub teams for part of the meeting to increase involvement and productivity.

# 13. What were the costs (time/\$/etc.) & what were the benefit of using the collaborative approach?

**Answer:** Costs: a substantial amount of time and \$ were put into the collaboration efforts. Benefit: The problems are too big and broad based for the Corps to solve alone. The full range of collaborators would be needed to implement the plan in the end.

### 14. Why did you choose to plan collaboratively?

**Answer:** It was worth it because if the plan was only developed by the Corps and the non-Federal sponsor it would not have had the groups/agencies on board that are necessary to implement the plan.

## 15. What obstacles (Corps policies, other agency policies, etc.) had to be overcome to facilitate the collaborative framework?

**Answer:** During the Corps internal review, collaborative plan may not be considered complete when the plan calls for other agencies/groups to implement various parts of the plan. It is good that we are beginning to recognize the true Federal interest as more than simply the Corps interest. The length of the Corps policy review has reduced momentum and created uncertainty at the end of the process.

## 16. Would things have turned out differently if a less engaging, less collaborative, approach was taken?

**Answer:** Yes, the plan would have been less comprehensive, we would have had fewer resources to draw on for implementation, and we likely would not have been supported during Washington Level review.

# 17. If you had to do it all over again, what would you have done differently with respect to who and how collaboration was implemented?

**Answer:** I would have developed smaller work-groups earlier on and only used the very large groups/high attendance meetings for information exchange.

## 18. Do you have any other lessons learned or comments?

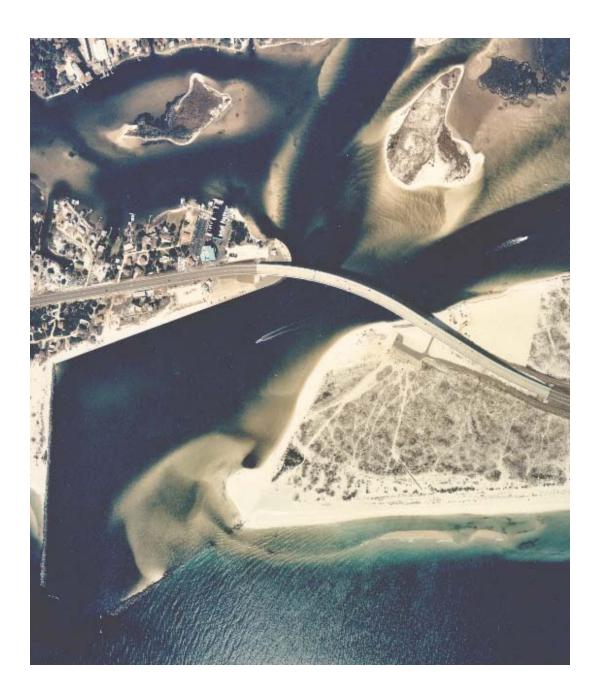
**Answer:** Do not underestimate how critical it is to work closely with the HQUSACE level of the vertical team. Their early and ongoing movement is critical to timely project review and approval.

### Lessons Learned

- 1. In order to facilitate collaboration, the Rock Island District held very large working meetings including all stakeholders and partners involved. Over time, the district found that it was more productive to break up into smaller workgroups or sub-teams when trying to get things done and to leave the larger group meetings primarily for information sharing.
- 2. The Rock Island District held facilitated meetings so that the full range of stakeholders and partners could participate in the development of the goals and objectives for the study. This encouraged early broad based by-in from all of the collaborators who would be involved in implementing a complete plan,
- **3.** Since the Illinois River study involved two Corps Divisions and four Districts, the team took the time to develop an MOU to clarify the roles and responsibilities. Although this took a lot of effort, it helped to assure a strong partnership by getting agreement on and communicating the expectations at the beginning of the study.
- 4. As part of completing the plan implementation section of the report, the study team worked with the other Federal and state agencies to estimate the types of tasks and order of magnitude of funding, by agency, for implementation. This was a very good

way to clarify for all parties the potential and expected roles in implementation, monitoring, etc. In the future it would be good to take this the next step by developing a cross-cut budget for the basin.

## Perdido Pass Navigation Project Baldwin County, Alabama Mobile District



**Key Issues:** Regional Sediment Management, Navigation, Environmental Dredging, Endangered Species

### Perdido Pass Navigation Project Baldwin County, Alabama Mobile District

### General Background

Perdido Pass is a natural inlet, stabilized by jetties, located at the entrance to Perdido Bay in Alabama (Figure X-1). It is part of the federal navigation system and is normally dredged on a 2-3 year cycle, under the Corps' O&M authority.

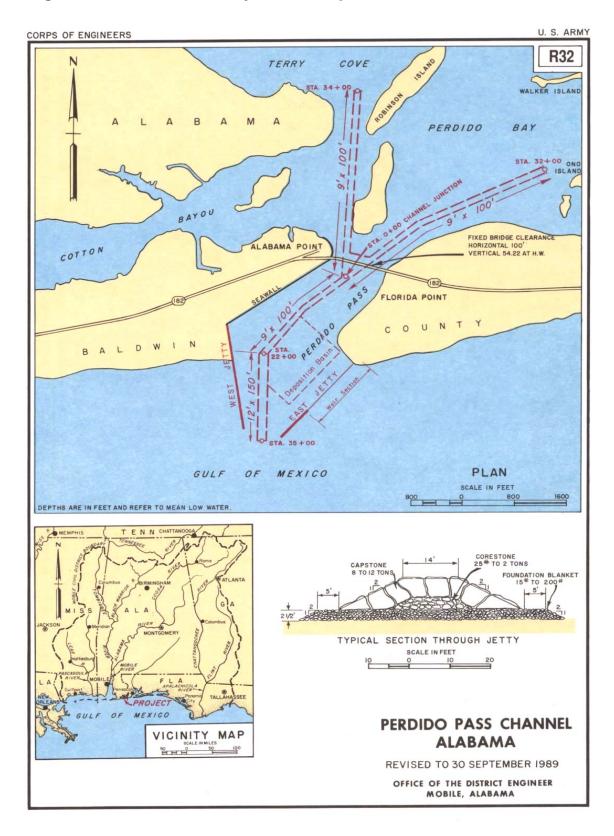
The existing navigation project consists of a 12-foot channel, 150 feet wide and 1,300 feet long from the Gulf of Mexico into the inlet, then 9 feet deep and 100 feet wide for approximately 2,200 feet to the Alabama Highway 182 bridge, where the channel branches into two extensions. Each extension has dimensions of 9 feet by 100 feet. One extension extends approximately 3,400 feet into Terry Cove. The other extends about 3,200 feet into the southern arm of Perdido Bay.

Prior to 2004, the east side of Perdido Pass (Florida Point) consisted of nice, wide beautiful beaches which are part of the Gulf State Park System, as well as habitat for threatened and endangered species including the Perdido Key beach mouse and piping plover, as well as numerous shorebird species and nesting sea turtles. In September 2004, Hurricane Ivan generated a 10-12 foot storm surge that almost completely leveled the natural habitat on Florida Point. The sand along the state beach system was transported into the navigation channel, Perdido Bay, and offshore.

Perdido Pass was impeded by all the sand, and was not safe for navigation. Congress authorized emergency restoration funding to restore the safety of the navigation system, including Perdido Pass. The Corps' job was to get navigation channels open as quickly as possible. The Corps planned to restore the channel to its minimal dimensions, so it could get on to other channel clearance projects.

The problem facing the Corps, however, was that the amount of sand that had to be removed was so great that there was not nearly enough space to put the sand in the

Figure X-1 Perdido Pass Project Area Map



existing authorized disposal areas. The Corps had to find alternative disposal methods. This would require new permits from the State of Alabama, as well as Endangered Species Act consultation and coordination with the US Fish & Wildlife Service (USFWS).

The Corps quickly initiated discussions with both Alabama State agencies and the USFWS. During consultation, the USFWS proposed that the sand be used to replenish the natural habitat at Florida Point. The USFWS had no funding to restore what had been an extremely valuable habitat and recreation resource.

By November of 2004 the Corps and USFWS had agreed on the general concept. The Corps, in consultation with USFWS, set up an Interagency Working Group (IWG) and by December the IWG had developed a plan and design for restoration of Florida Point.

By January 2005 the Corps had a dredge on site to begin pumping the sand from the navigation channel onto Florida Point. Pumping was completed by March 2005. Fortunately there had been a previous survey of the site, so the agencies were able to recreate the basic dimensions and elevations of the pre-existing habitat.

The Corps budget for this project was \$750,000. The other agencies did not contribute any money to the dredging, but contributed considerable technical expertise and time to designing and implementing the project. In addition, the USFWS and Alabama State agencies were able to put up sand fencing and organize large groups of volunteers to help with the placement of recycled Christmas trees to stabilize the sand.

In May of 2005 the IWG conducted a site inspection and discovered that the restored habitat was already being used for nesting by least terns, black skimmers and sea turtles.

As a result of building strong collaborative relationships, the Mobile District was able to leverage funding and seize the opportunity to accomplish far more than simply clearing the channel.

### Interview with Study Manager

## 1. Do you feel that you were well prepared and had the skills needed to coordinate this project?

Answer: A critical element in the success of this project was that the Corps Regional Sediment Management (RSM) team had developed pre-existing relationships with the USFWS and Alabama State agencies. So the collaborative working relationship was already established and could be transferred directly into this project. Within the IWG there was all the scientific and operational knowledge and skills needed to implement the project.

## 2. What training would you have taken or did you take to prepare for this level of collaboration?

**Answer:** Prior work on the RSM had already developed skills at working collaboratively, since that is one of the goals of the RSM program. The experience working on RSM projects, and in Planning generally, provided adequate training to implement this project.

## 3. Who were the collaborators in this effort both internal and external to the Corps?

**Answer:** The participants in the IWG were the Corps, USFWS, Alabama Department of Conservation and Natural Resources, Alabama Department of Environmental Management, Alabama Gulf State Park, and the City of Orange Beach.

There were three internal stakeholders within the Mobile District: Planning and Environmental Division, Engineering Division, and Operations Division. Planning assembled and coordinated the interagency team and was responsible for obtaining the state water quality certification, environmental clearances, and overall coordination. The Engineering Division worked with previously collected survey information and created a restoration design template that was approved by the interagency team. Operations Division handled all of the contracting and construction, and coordinated closely with the interagency team to make adaptive modifications based on what was actually being observed on the land.

### 4. What categories/types of stakeholders are most impacted?

**Answer:** There were no external stakeholders involved in the decision process outside the interagency team, although general support for the project was demonstrated by the crowds of volunteers who helped with the planting. Those stakeholder groups most likely to be impacted (favorably) by the project included navigation, recreation, tourism, and groups interested in the natural habitat including protection of endangered species.

## 5. What roles did the collaborator's play and what types resources did they bring to the table?

**Answer:** All members of the IWG served as equal partners in decision making. Decisions were made collectively. This was unquestionably facilitated by the prior cooperative working relationship between all the participants. All members of the IWG contributed heavily in terms of professional expertise.

### 6. What written or unwritten expectations existed among the collaborators?

**Answer:** The IWG did not develop any written agreement or charter for how the agencies would work together. There was a general expectation that decision would be made collectively. Again, one reason why there was minimal time spent on reaching agreements on process was because there were pre-existing cooperative working

relationships. The Regional Sediment Management program puts an emphasis on building good relationships with other agencies and stakeholders, and an effort is made to be as flexible as possible in responding to local authorities. Also, the project was essentially an emergency project.

There was an initial meeting at which the agencies discussed what professional expertise would be needed, and the agencies divvied up the responsibilities among themselves.

## 7. How were final decisions made as the study moved from one milestone to the next?

Answer: Decisions were made by mutual agreement. There were several meetings at which all the issues were put on the table and there were collective decisions on how to address them. Most meetings were held on-site so that the team could make decisions like "put more sand here". Decisions were made "on the fly." Without cooperation the project could not have been completed in the short timeframe required to expend the emergency funding. It helped immensely that there was a shared understanding of the project and a common goal. The entire project was completed in about five months.

### 8. Were the collaborators satisfied with this process?

**Answer:** Apparently yes. No one has expressed any negative comments.

## 9. What methods, approaches, or tools did you use to identify collaborators and establish a collaborative framework?

**Answer:** The other collaborators were all known because the agencies had worked together on other Regional Sediment Management projects.

## 10. What was the framework or structure that was used to organize the collaboration?

**Answer:** An Interagency Working Group.

## 11. What tools, methods, techniques, ground rules or approaches were used to facilitate continued and ongoing collaboration?

**Answer:** Meetings were held face-to-face. When possible, meetings were held on site so that the team could use an "adaptive management" approach, responding to what they could actually observe on-site. Other communication was by phone or e-mail.

## 12. Was there any tool, approach or method that did not work well or that you would not recommend?

**Answer:** No, not regarding collaboration.

## 13. What obstacles (Corps policies, other agency policies, etc.) had to be overcome to facilitate the collaborative framework?

**Answer:** The Corps was under time pressures to get the channel open and get on to projects in other areas where navigation was still not safe.

## 14. Would things have turned out differently if a less collaborative approach was taken?

**Answer:** Without state agencies granting permits and clearances in several weeks, rather than several years, they could not have accomplished what they did. The USFWS also dramatically expedited the ESA consultation process. Otherwise the Corps would probably have just done the minimum needed to make the channel safe for navigation, and quickly moved on to channel-clearing projects in other areas.

If they had done an environmental restoration program in the usual manner, not associated with an emergency action, and without cooperation from the USFWS and state agencies, it would have taken 3-5 years. The initial studies – before any work was done – could have cost several million dollars.

## 15. If you had to do it all over again, what would you have done differently with respect to who and how collaboration was implemented?

**Answer:** Probably nothing: In fact, this project should be used as a model of how to conduct an emergency restoration process. This project did not go the way a typical project goes. It was a wonderful opportunity, perhaps a once-in-a-career project.

### 16. Do you have any other lessons learned or comments?

**Answer:** One thing that was clear throughout the project was the value of having established an effective prior relationship with the other agencies. Everything in this project was streamlined by the fact that a cooperative working relationship was already in place.

The project also showed how quickly work could be accomplished when there is an established working relationship and agreement on the goals of the project.

At a technical level, this project shows that if you have an opportunity to act on it quickly, critical habitat can be restored and will be utilized by the species.

Also, this project reinforced a technical lesson this team learned on a previous demonstration project on the west side of Perdido Pass. On that project, in order to bypass some easement issues, the Corps kept the dredging material in state waters

(below mean water line). This caused ponding and very steep escarpments, posing severe environmental, health and safety issues. It also required expensive continuing maintenance. So, on the project on the east side, the team knew it wanted to avoid placing sand below mean water line and wanted to keep higher elevations.

The team also discovered the Lidar surveying tool to be particularly valuable. Two years prior to Hurricane Ivan the project area was surveyed using the Corps' Lidar survey system. This technology makes it possible to conduct simultaneous comprehensive, high density surveys for both the topographic (above water) and hydrographic (below water) portions of the beach system. Because of this good fortune of conducting this survey two years before the hurricane, it was possible to create a design template that largely replicated the pre-hurricane conditions.

### Lessons Learned

- 1. One of the goals of the Regional Sediment Management Program is to facilitate increased collaboration. By implementing this philosophy in their management practices, the Mobile District had the opportunity to develop working relationships with other Federal and state agencies which has been a great benefit to the district on several other projects.
- 2. If strong collaborative relationships are developed as a common business practice, those relationships can help facilitate quicker and better solutions when operating in an emergency mode.
- **3.** Embracing a collaborative approach enabled the Mobile District to quickly implement the Perdido Pass dredging project while allowing for creativity which benefited endangered species and the local communities.

68

### Poplar Island Environmental Restoration Project Chesapeake Bay, Maryland Baltimore District



**Key Issues:** Beneficial Use of Dredged Material, Ecosystem Restoration, Island and Marsh Habitat

## Poplar Island Environmental Restoration Project Baltimore District, Maryland

### General Project Background

The Poplar Island Environmental Restoration Project (PIERP) is located in the middle of the Chesapeake Bay region approximately 34 nautical miles southeast of the Port of Baltimore, MD (Figure X-1). The Chesapeake Bay is the largest and most ecologically productive estuary in the United States. The Bay and its watershed encompass sixty-four thousand square miles in six states and the nation's capital. The watershed is home to approximately seventeen million residents and three thousand six hundred species of fauna and flora. As a result of many stressors, the Bay has been degraded from its historic condition with a significant decline in water quality and loss of many valuable habitat types. Remote island and tidal marsh are among the long list of habitat types that have experienced decline in the last one hundred years.

The PIERP was planned to be a national model for the beneficial use of dredged material. The Chesapeake Bay approach channels to the Port of Baltimore must be dredged to maintain appropriate depths and widths to provide safe traffic for the ships that utilize them. The Port's activities contribute nearly one and a half billion dollars to Maryland's economy and generate one hundred and forty million dollars in tax revenues to the state and local governments annually. The Port provides jobs for eighteen thousand people and more than one hundred and twenty-six thousand Maryland jobs are associated with cargo and vessel activity to the Port. In order to maintain operations of the Port, the approach channels are continuously being dredged and there is a constant need to find placement sites for the dredged material.

The PIERP combines the need of the placement of clean dredged material from the approach channels to the Port of Baltimore with the need to restore remote island and marsh habitat in the Chesapeake Bay. The goals of the PIERP are to: 1) restore remote island and marsh habitat in the mid-Chesapeake Bay area, 2) optimize capacity for the placement of clean dredged material from the approach channels to the Baltimore Harbor, and 3) to protect the environment around the restoration site.

The project consists of reconstructing Poplar Island to its approximate size in 1847. The 1,140 acre island is being restored by placing approximately 40 million cubic yards of clean dredged material behind 40,000 linear feet of containment dikes which surround the four remnant islands known as Poplar Island. The dredged material is being placed, dewatered, graded and planted to create equal areas of wetland and upland habitat.

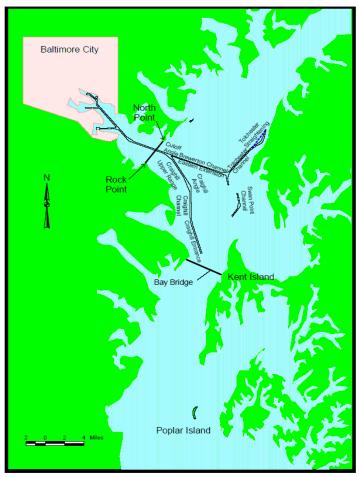


Figure X-1: Poplar Island Location Map and Port of Baltimore Approach Channels

Eighty percent of the wetland areas are being developed as low marsh and twenty percent as high marsh. Small islands, ponds, and dendritic tidal channels are being created within the marsh areas to increase habitat diversity. Habitat diversity will be increased in the upland areas by constructing small ponds and wetlands and providing both forested and relatively open scrub/shrub areas.

The continued planning and implementation of the PIERP requires a high level of cooperation between many government agencies on the Federal, state and local level as well as with non-governmental organizations, the academic community and a vast variety of stakeholders with differing and, at times, opposing interests. To organize this complex collaborative effort, the Baltimore District, and the Maryland Port Administration, developed an organizational structure (figure X-2) which tapped into several pre-existing committees and has proven to be extremely effective.

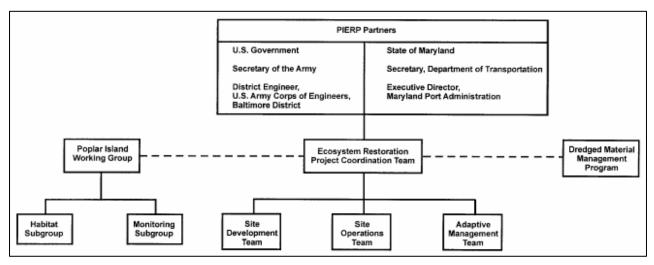


Figure X-2 PIERP Organizational Chart

From the beginning of the project, there were many obstacles to overcome. There were existing tensions in the Chesapeake Bay community over several very high-profile and controversial projects involving dredging and dredge material placement. As a result, there was a low level of trust between the various Federal, State and local agencies and between the many stakeholder groups.

The success of the project depended on including all parties in the planning process from the very beginning and working hard to establish common ground. The Corps study and project managers had to establish an open and flexible environment where everyone would respect the views of the other agencies and strive to understand the laws and policies that shaped their positions on issues. By striving to achieve a consensus on decisions, and by explaining the reasons why certain decisions would not be feasible, the Baltimore District was able to work with its partners to develop a healthy and long lasting partnership on this project.

The collaborative approach laid the ground work for addressing the many difficult decisions and unexpected complications that have surfaced during construction of the project. Some of the challenges that have had to be addressed include conflicting habitat requirements for multiple species, the presence of an avian disease, and toxic bacteria that was formerly thought not to be able to exist in the brackish environment. These issues could have easily gotten out of control and caused a great deal of problems for the entire project team. However, because a strong partnership had been formed and communication about these problems was quick and forthright, the partners were able to work together to develop acceptable solutions in a timely manner.

In addition to unexpected problems, several unexpected opportunities have occurred at the Poplar Island restoration site. For example, the treasured Diamondback Terrapin (*Malaclemys terrapin terrapin*) and the state listed Least tern (*Sterna antillarum*) started using the island site for nesting. Through effective collaboration, the team was able to

72

make adjustments that not only allowed construction to go on as scheduled but benefited the nesting wildlife at the site.

The efforts of the PIERP team to establish and effective collaborative network within the Chesapeake Bay community has not only benefited the project in many ways, but has helped develop a more robust sense of cooperation among the Federal, state and local government agencies and other stakeholders that has carried over to many other studies and projects in the watershed.

### Interview with Study Manager

## 1. Do you feel that you were well prepared and had the skills needed to coordinate this project?

**Answer:** Yes, I was prepared and did have the skills necessary to coordinate the project because I had many years of experience with the Corps and helpful advisors throughout the process.

## 2. What training would you have taken or did you take to prepare for this level of collaboration?

**Answer:** The most important training I had was on-the-job training. However, I also had public involvement training which has been very helpful. Additional help came from various advisors and mentors. The use of a well trained multi-discipline team was very important. Training in adaptive management would have been very useful.

## 3. Who were/are the collaborators in the project both internal and external to the Corps?

**Answer:** Primary <u>internal</u> collaborators include the entire Corps Project Delivery Team including ERDC and the chain of command.

**Answer:** Primary <u>external</u> collaborators include: natural resources and regulatory agencies, members of academia (such as University of Maryland and other experts on various issues from around the country), and a large variety of stakeholder groups and citizens. Proactively involving the public is very important.

### 4. What categories/types of stakeholders are most impacted?

**Answer:** Primarily those with environmental interests and/or economic interests related to the Port of Baltimore or the natural resources of the Bay. Some of the stakeholders include local governments, waterman, resource agencies, academic institutes, non-governmental organizations, environmental education groups including schools, National Aquarium of Baltimore, sports fisherman, two private land owners, the community around Talbot County, and the Audubon Society

## 5. What roles did the collaborator's play and what types of resources did they bring to the table?

**Answer:** The Corps and Maryland Port Administration bring funding to the table. Stakeholders bring the technical expertise and political wherewithal to get the job done.

### 6. What written or unwritten expectations existed among the collaborators?

**Answer:** There are many documents that exist to clarify roles and procedures. Some of those include a Project Management Plan, Adaptive Management Plan, Habitat Development Framework, and a Monitoring Framework. We also developed MOU's with the USFWS, NMFS, and USGS. We signed a Project Cooperation Agreement with the Maryland Port Administration and contracts between the Maryland Port Administration and Maryland Environmental Services (MES).

**Unwritten:** Everyone involved was expected to be committed to the same goal and to be open, honest and flexible. Over time, an atmosphere of trust was developed as partners realized that input from outside the Corps would be taken seriously.

## 7. How were/are final decisions decided as the study/project moved from one milestone to the next?

**Answer:** The Ecosystem Restoration Project Coordination Team would develop a recommendation. They would send it to the Poplar Island Workgroup for independent review. Then the PM from the Corps along with the PM from the Port would make the final decisions. We tried not to override the group and would kick things back for further discussion if any issues came up.

### 8. Were/are the collaborators satisfied with this process?

**Answer:** Yes, there has been a high level of satisfaction. When there are criticisms, adjustments are made and everyone knows it is a continuous process.

## 9. What methods, approaches, or tools did you use to identify collaborators & establish a collaborative framework?

**Answer:** We utilized an existing collaborative framework that had been established previously to address uses of dredged material from the Chesapeake Bay approach channels to the Port of Baltimore. In addition, we hired a consultant to beat the bushes and get the Corps connected with people who were interested. Finally, we held a lot of public meetings.

### 10. What was the framework or structure that was used to facilitate collaboration?

**Answer:** See figure X-2

## 11. What tools, methods, techniques, ground rules or approaches were used to facilitate continued & ongoing collaboration?

**Answer:** We hold a lot of meetings and have a number of documents, such as MOU's, to keep the different groups on track. Also, we established appropriate funding arrangements and worked to keep people informed and involved.

## 12. What tools, methods, techniques and etc. were used to facilitate collaboration?

**Answer:** Primarily committee meetings and public meetings.

## 13. Was there any tool, approach, or method that did not work well or that you would not recommend?

**Answer:** No, not really.

## 14. What were/are the costs (time/\$/etc.) & what were the benefit of using the collaborative approach?

**Answer:** The costs in time and money are very high. The benefits far outweigh the costs for several reasons: a) we produce efficient and high quality decisions, b) when things go wrong, the collaborative framework facilitates effective handling of the situation, and c) it's the only way we could implement this complex project and effectively address the many facets of construction, biology and chemistry.

### 15. Why did you choose to plan collaboratively?

**Answer:** It is the only way to succeed!

## 16. What obstacles (Corps policies, other agency policies, etc.) had to be overcome to facilitate the collaborative framework?

**Answer:** There were many Federal and State policies that had to be overcome. Also, everyone had to clearly understand each others positions and the roles their agency would play.

## 17. Would things have turned out differently if a less engaging less collaborative approach was taken?

**Answer:** Yes, the project would not have been able to come as far as it has. It might not have been implemented and it certainly would have cost more money.

### Lessons Learned

- 1. The Baltimore District found that by communicating problems in a forthright and timely manner, they were able to foster a more cooperative environment among those collaborating on the Poplar Island project.
- **2.** The Baltimore District publishes a monthly newsletter to inform all stakeholders and interested parties of the recent activities and monitoring results. This newsletter is also provided to the chain of command including NAD and HQUSACE.
- **3.** By learning and understanding the laws and policies that form the positions of other Federal, state, and local agencies, the Baltimore District was more able to establish a framework that fostered a high level of collaboration among the project partners.
- **4.** The efforts put into building a coalition of partners on the Poplar Island project have benefited the Baltimore District and the Chesapeake Bay community on many other studies and projects.

# Va Shly' Ay Akimel Salt River Restoration Study Los Angeles District Arizona/Nevada Field Office



**Key Issues:** Ecosystem restoration; Riparian habitat; Tribal sovereignty; Hydrogeomorphic modeling; Stormwater

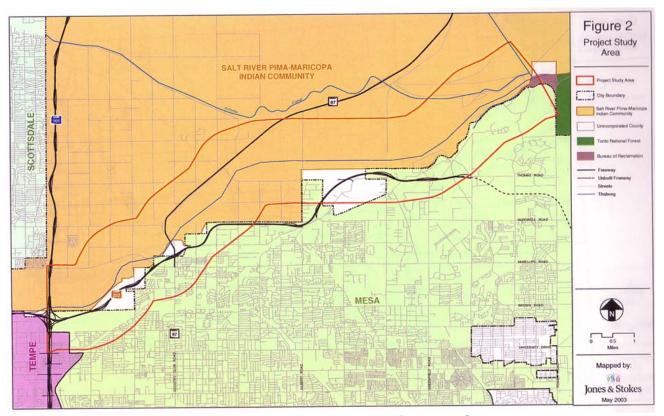
# Va Shly' Ay Akimel Salt River Restoration Study Los Angeles District Arizona/Nevada Field Office

### General Project Background

The name of this study, "Va shly' ay Akimel," is a phrase from the Pima-Maricopa language meaning "the people of the river". This study was conducted by the USACE - Los Angeles District, the Salt River Pima-Maricopa Indian Community (Indian Community), and the City of Mesa, Arizona.

The purpose of the study was to identify if there is a Federal interest in implementing an ecosystem restoration project along the Salt River from the Granite Reef Dam downstream to the Pima Freeway (SR101). The study focused on improving and increasing fish and wildlife values and diversity for threatened and endangered species, with incidental benefits associated with flood damage reduction, recreation, and water quality and supply.

The study was organized with an executive committee consisting of the Chief of Planning from the Arizona/Nevada Field Office of the L.A. District, and one representative from each the two non-Federal cost sharing partners. There was a Project Delivery Team (PDT) that consisted of a Corps of Engineers Study Manager



along with the appropriate technical team members from the Corps. The PDT had

representatives from the local sponsors as well. There were PDT members representing resource agencies and Native American interests. Most final decisions were made by the PDT, largely by consensus.

The PDT also interacted with a 46 member technical advisory group that was developing a Hydrogeomorphic Model (HGM) – a system for classifying wetlands -- that was used in the plan formulation of the project. In addition, the team included technical support from the Corps Engineer Research and Development Center (ERDC) which was working with 3 three similar studies to develop variations of an HGM model that would be appropriate for plan formulation. In the end,

The study area spanned fourteen miles along the Salt River in Maricopa County, Arizona, extending from immediately downstream of the Granite Reef Dam to the Pima Freeway (SR101). The study area included lands owned by the county, the City of Mesa and the sovereign Salt River Pima-Maricopa Indian Community. The Va Shly'ay Akimel project is one of four ecosystem restoration projects being conducted by the Corps and others along the Salt River downstream of Granite Reef Dam. The other three projects include: Rio Salado, Rio Salado Oeste and Tres Rios. Va Shly' ay Akimel is the first specifically authorized ecosystem restoration study that the Corps has undertaken with a sovereign Native American Indian Community as a non-Federal sponsor.

The reconnaissance phase of the study was initiated in November 2000. This report concluded that there was a Federal interest in continuing the study into the feasibility stage. The Indian Community, the City of Mesa, and the Corps began the feasibility study in August 2001.

The Corps and other agencies have conducted numerous studies of water resources and environmental resources studies related to the Salt River. Flows in the Salt River are controlled by a series of upstream dames built by the US Bureau of reclamation and operated by the Salt River Project. The SRP system is comprised of six reservoirs and seven dams on the Salt and Verde Rivers. The oldest of the dams is Roosevelt Dam, which was completed in 1911.

This area goes through periods of drought followed by periods of flooding. The period from 1942 to 1977 was a relatively dry period with slightly-to-very dry years. From 1978 through 1995 there was a relatively wet period, with heavy ran and flooding occurring in 1978, 1979, 1980, 1983, 1993 and 1995. These major floods scoured away accumulated sediments and also destroyed many inadequate bridges. There was significant damage to commercial structures and a several residential areas. The average rainfall is about 8 inches in lower parts of the basis, and about 14 inches in the upper basin.

The primary objectives of the project were:

1. Restore a diversity of riparian and associated floodplain fringe habitats to a more natural state

- 2. Provide an acceptable means of capturing stormwater or relocating other existing water sources and conveying it into restored habitat areas
- 3. Maintain or enhance existing conveyance of peak discharges and ensure that the system of stormwater collection would not increase flood flows or worsen conditions downstream in existing developed areas
- 4. Address specific flooding problems within the floodplain

The study first identified a list of possible measures, and after screening out a few of these measures, combined these measures into alternatives. The alternatives identified included:

- No Action: Take no action to provide ecosystem restoration in the study area.
   This alternative was primarily used as a baseline for comparison with other alternatives
- Restoration Based on Existing Water Budget: This alternative would take those actions for ecosystem restoration that could be accomplished without new water sources, striving to make better use of the existing sources. It would include active and passive capture and utilization of stormwater from various drains and seepages at an existing dam. It would have allowed for passive recreation and construction of an interpretive center, but would have provided no additional flood protection.
- Restoration through Non-Structural Means: This alternative would improve the current cottonwood/willow//mesquite habitat by altering the current gradient and supplying additional water. It would combine passive capture of stormwater as well as commitment of delivered water from another source.
- Restoration through Structural and Non-Structural Alternatives: This alternative
  called for improving the current habitat by in-channel restoration that would
  create a meandering channel lined with native grasses, cottonwood/willow
  corridors, and appropriate understory vegetation. It also included modification of
  bank protection and a buffer. The water source would include passive capture of
  groundwater as well as a commitment of delivered water sources.
- Comprehensive Restoration: This alternative combined many of the features of the other alternatives but was at the largest scale, had the greatest water requirements, and had the greatest habitat focus.

These plans were reviewed by the Indian Community, the City of Mesa, and USACE Los Angeles District, with additional consultation with the USFWS & Arizona Fish and Game. The study team identified a list of measure that could be taken, and after screening out some of the measures, formulated alternative plans. A draft EIS was published in April 2004. The Final EIS was issued November 2004.

The recommended plan including vegetation planting; removal of saltceder stands and replacement with appropriate native vegetation; providing a distribution system for irrigation water; and construction of a grade control structure to help reduce upstream

migration ("headcutting"), thus stabilizing the river system, improving the likelihood of success of vegetation established upstream and downstream.

### Interview with Study Manager

## 1. Do you feel that you were well prepared and had the skills needed going into this study?

**Answer:** Yes, overall I was prepared.

## 2. What training would you have taken or did you take to prepare for this level of collaboration?

**Answer:** Previous work experience both in and out of the Corps was very helpful. A background in business management was also helpful. Previous training that was helpful included: group projects in college, group dynamics, the SPD Leadership Development Program, M.S. in Business with training in facilitation, the SPD Plan Formulation Course and experience in the Peace Corps.

Additional training that would be helpful: Training and guidance on how to handle in-kind credit for services from the non-Federal sponsors would have been very helpful. This issue has a significant impact on collaboration. Maintaining a collaborative atmosphere while attempting to receive the appropriate products in a timely fashion can be challenging. Managing and defining the expectations is critical. In the case of this study, the non-Federal cost-share was \$2.375 million of mostly in-kind services.

### 3. Who were the collaborators both internal and external to Corps?

**Answer:** Internal included the PDT, ITR and chain of command

**Answer:** External included – Official collaboration occurred with the Salt River Pima-Maricopa Indian Community, The City of Mesa Council and the appropriate resource agencies such as USFWS & Arizona Fish and Game. This was also done in conjunction with the development of the Southwest HGM model which had a diverse group of 46 participants forming the technical advisory group.

### 4. What categories/types of stakeholders are most impacted?

Answer: The tribal council wanted to keep the sand and gravel operations going within the study area because it provided jobs and income for the Indian community. They also wanted ecosystem restoration to occur and to protect the Indian heritage. The Salt Pima Community group (a sub group with in the Indian Community) was focused on ecosystem restoration, the protection of cultural sites and more attention given to cultural sites. The Pima Indians came from ancestors who were river people more so than the Maricopa Indians. The Pima group felt more connected to the River. The City of Mesa was interested in ecosystem restoration along with beautification and the

development of recreation opportunities such as hiker/biker trails. In addition to all of this, in the arid southwest water is a valuable commodity. Many stakeholders care about the availability and the proper conservation of water.

## 5. What roles or levels of roles did they (from 1A) play & what types of resources did they bring to the table (i.e. enviro/economic; advisory/voting; technical review, funding; passive or active)?

Answer: There was an executive committee consisting of the Chief of Planning from Arizona/Nevada Field Office of the L.A. District, and one representative from each of the non-Federal cost sharing partners. Also, there was a Project Delivery Team (PDT) that consisted of a Corps of Engineers Study Manager along with the appropriate technical team members from the Corps. The PDT had representatives from all of the local sponsors as well. There were PDT members representing resource agencies and Native American interests. The PDT interacted with a 46 member technical advisory group that was developing the Hydrogeomorphic Model (HGM) that would be used in the plan formulation of the project. In a addition, the team included technical support from ERDC. ERDC was also working with 3 other similar studies to develop variations of an HGM model that would be appropriate for plan formulation. In the end, most final decisions were made by the PDT in a mostly consensus based way.

### 5. What written or unwritten expectations existed among the collaborators?

#### Answer:

<u>Unwritten:</u> While all collaborators were fully part of the process, everyone anticipated that the Corps had the lead. There were some negative unwritten expectations too. The Indian community did not expect the Corps to fully consider their interests.

<u>Written:</u> There was a Project Management Plan that outlined what the roles of various groups and individuals would be. There was an inner-governmental agreement between the Federal government and the Salt River Pima-Maricopa Indian Community.

## 6. How were final decisions decided as the study moved from one milestone to the next?

**Answer**: In the South Pacific Division (SPD), there are solid criteria that must be met at each milestone before the study can move forward. These milestones are labeled F1 – F9. At each milestone meeting, executive level members from the partners participated to make sure the study was on track. These meetings are very important and were critical to the success of the collaboration.

### 7. Were the collaborators satisfied with this process?

**Answer:** Yes, with the exception to how long things took. However, there were different views towards this. The Native American community at times thought that the Corps wanted to move things along too quickly. The other partners were typically frustrated at how slow the process was.

### **IV. TOOLS & METHODS**

1. What methods, approaches, or tools did you use to identify collaborators & establish a collaborative framework?

**Answer**: The PDT members, including the non-Federal partners, knew who needed to be involved because of former experiences.

2. What was the framework or structure that was used? (i.e. types of committees/ sub committees)?

**Answer**: There was an Executive Committee, PDT and a technical advisory committee (for HGM development).

3. What tools, methods, techniques, ground rules or approaches were used to facilitate continued & ongoing collaboration?

**Answer:** 1) We worked hard to have weekly meetings; 2) the Corp worked closely with and shepherded the non-Federal partners in their production of in-kind services (this was because there was a large amount of in-kind services to be produced); 3) meeting locations were rotated so that there was an equal burden for travel and preparation

4. What tools, methods, techniques and etc. were used to facilitate collaboration?

**Answer:** Formal training & skills developed on the job in meeting facilitation were very useful and important

5. Was there any tool, approach, method that did not work well or that you would not recommend?

**Answer:** We took the approach that the non-Federal sponsors would provide the majority of their financial contributions through in-kind services. On a large study, this can be difficult to manage. It is important for the non-Federal partners to fully understand what it will take to produce the products. It is also important for the Corps to recognize and scope the level of effort that will go into managing the in-kind services portion of the study. The Corps technical team leaders needed to work very closely with their non-Federal counterparts earlier on. This was particularly important because of the large amount of in-kind services being provided by the non-Federal partners.

### V. COSTS & BENEFITS

1. What were the costs (time/\$/etc.) & what were the benefit of using the collaborative approach?

Answer:

Costs: The cost in time was substantial.

### Benefits:

- 1) They were able to obtain the necessary real estate options. The City of Mesa owned part of the land while much of the land is owned by the Indian community.
- 2) We were able to leverage the resources needed to get the job done -- Mesa provided cash and the Indian community provided in-kind services.
- 3) All of the groups needed to work together in order for the project to have the political support to move forward.
- 4) There were many interests to consider that were necessary to coordinate for the project to be successful.
- 5) There was a need for diverse skills in technical support to develop the model needed for formulation

### 2. Why did you choose to plan collaboratively? (why it's worth it?)

**Answer:** There is no possible way to develop a successful project without all of these groups coming together. They need each other on many levels.

### VI. <u>LESSONS LEARNED</u>

## 1. What obstacles (Corps policies, other agency policies, etc.) had to be overcome to facilitate the collaborative framework?

**Answer**: Some of the policy made things difficult because we were dealing with a sovereign nation. There was a hiker-biker path in the plan and there was some issue related to the path being limited to the use of the Indian community only.

## 2. Would things have turned out differently if a less engaging less collaborative approach was taken?

**Answer:** We never would have successfully developed a recommended plan. The Indian council would never have moved forward if the Native American community was not fully engaged and considered in this planning effort.

## 3. If you had to do it all over again, what would you have done differently with respect to who and how collaboration was implemented?

#### Answer:

1) I would have re-thought how we approached in-kind serves either by scoping less in-kind services or more time and funds to manage them.

2) I would have planned increased coordination time for working with the Indian community. I would have considered the perspective of a sovereign nation more in how the study was scoped. The Native American community and culture was less inclined to move things at a pace that is as fast as the Corps. Usually, it is the other way around and our sponsors want to move faster than we are able too.

### 4. Do you have any other lessons learned or comments?

Answer: No.

## Willamette River Basin Portland District



**Key Issues:** Water Control, Flood Damage Reduction, Endangered Species, Water Quality, Recreation

## Willamette River Basin Portland District, Oregon

### General Background

The Willamette River Basin is located in northwest Oregon (Figure X-1). The basin drains the Cascade Range to the east and the Coast Range to the west. The Willamette River flows north until passing through downtown Portland before reaching its confluence with the Columbia River near the Oregon and Washington State border.

The existing Willamette Basin Project includes eleven water storage reservoirs and two re-regulation dams with authorized purposes including: flood control, hydropower, navigation, irrigation, fish & wildlife, recreation, water quality and municipal & industrial water supply. Although the project was authorized for multiple purposes at individual reservoirs, flood control is specified to be the primary purpose. The average annual flood damage reduction from the project is \$920 million with an estimated total of 18.6 billion dollars of flood damage reduction to date. In addition, the project generates more than \$50 million in hydropower annually and results in more than \$200 million dollars of recreation related revenue in the region each year.

Within the project area there is a rich and biologically diverse ecosystem. The ecosystem, however, has been negatively impacted by the Willamette River Project. Now that those impacts are better understood, the Corps is seeking to operate the project in a way that benefits aquatic life and improves water quality while continuing to maintain the high level of benefits from the other project purposes. There are twenty-six rare, threatened or endangered species in the basin to consider of which the most notable include: Winter Steelhead (*Oncorhynchus mykiss*), Spring Chinook (*Oncorhynchus tshawytscha*), Bull Trout (*Salvelinus confluentus*), and the Oregon Chub (*Oregonichthys crameri*).

The problem the Corps faces is managing the flows from all of the reservoirs in the basin to serve multiple project purposes that may at times conflict. In addition, the Corps faces many challenges trying to address the requests of a myriad of stakeholder groups while complying with the multiple laws that govern the operations of the project. To successfully meet these challenges, the Corps has recognized the importance of implementing an integrated and collaborative approach.

To facilitate collaboration, the Portland District has established a "Willamette Basin Coordinator" position and the "Willamette River Basin Interagency Flow Management Workgroup" (IFMW). The responsibilities of the coordinator are to: 1) serve as the primary district point of contact for activities in the basin, 2) foster and develop effective partnerships, 3) facilitate the communication of information to appropriate parties 4) assure the integration of water resources initiatives in the basin as much as practicable and 5) chair the IFMW.

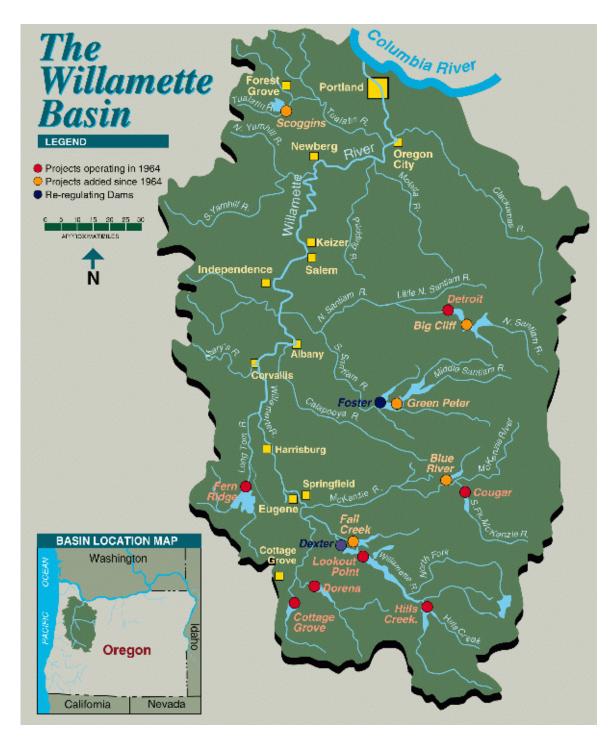


Figure X-1 Willamette River Basin, Oregon

The IFMW consists of five Federal agencies and twelve state agencies. In addition, the group collaborates with several other Federal agencies, ten municipalities, and many watershed councils and stakeholder organizations. The purpose of the IFMW is to develop the annual Willamette Conservation Plan (WCP). The WCP guides the operation of the reservoirs in the project from April 1 through October 31 each year to achieve Endangered Species Act requested flows from April through June while assuring there is sufficient water to meet Congressionally Authorized flow requirements and reservoir minimum flows from July through October. In addition to development of the WCP, monthly interagency meetings and weekly conference calls are held to provide real-time decision making capabilities as data and information are obtained throughout the water conservation season.

To facilitate implementation of the WCP and real time recommendations, a simple collaborative structure has been established (figure X-2). Within this structure, the IFMW relies on data from the USGS – National Weather Service River Forecast Center and the NRCS snow surveys which are used to develop the projected total volume runoff for long-term forecasting. These data are utilized to develop a draft WCP. As the season progresses, additional data are collected to develop the final WCP. The IFMW sends the final WCP and real-time recommendations to the Portland District Chief of Engineers who makes most of the final decisions regarding flow management. Those decisions are then forwarded to the Corps of Engineers Northwest Division Reservoir Control Center which is responsible for the day to day operations of reservoirs throughout the Columbia River Basin including along the Willamette River.

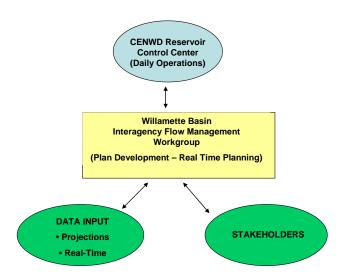


Figure X – 2: Collaborative Framework for Developing and Implementing the Annual Willamette Water Conservation Plan

The Corps has been convening the IFMW for the past decade. This approach towards addressing the complex challenges associated with managing the Willamette River Project has enabled the Corps to most effectively meet the demands of maintaining the multiple project purposes while striving to achieve flows that will benefit endangered species and improve water quality. The efforts that the Portland District has made to embrace a collaborative and integrated approach towards water management has substantially enhanced the Corps' relationships with other state and Federal agencies and with affected stakeholders in the region.

### Interview with Study Manager

## 1. Do you feel that you were well prepared and had the skills needed to coordinate this project?

**Answer:** Yes, previous work experience in Planning and excellent mentoring by senior planners over the years helped me to develop the skills necessary to coordinate this effort. Also, formal technical training and the Core Planning Curriculum Courses helped to prepare me for dealing with some of the complex technical issues related to this project.

## 2. What training would you have taken or did you take to prepare for this level of collaboration?

**Answer:** Any training that helps prepare for dealing with multiple technical disciplines and organizing groups would be helpful. On the job training with good mentoring was probably the most effective for me.

## 3. Who were/are the collaborators in this effort both internal and external to the Corps?

**Answer:** The primary <u>internal</u> collaborators include: 1) PPPMD Lead PM/Planner; 2) Reservoir Regulation and Water Quality Section Technical Lead; 3) Operational Project Manager, project Fish Biologist and project Maintenance Supervisor; 4) Public Affairs Office; 5) Office of Counsel and the 6) Reservoir Control Center at NWD – who regulate and control the projects in the entire Columbia River Basin.

Answer: The primary <u>external</u> collaborators include: 1) The Oregon Water Resources Department as the primary POC for the state; 2) Oregon Department of Fish and Wildlife; 3) Oregon Department of Environmental Quality; 4) Oregon Department of Geology; 5) Oregon State Marine Board; 6) Oregon State Parks; 7) Bonneville Power Administration; 8) U.S. EPA; 9) US FWS; 10) National Marine Fisheries Service; 11) National Forest Service (land owners). Further collaborators who are not officially on the committee but provide important data are: USGS, National Weather Service – River Forecast Center and the NRCS whose snow surveys are used to develop the projected total volume run-off for long-term forecasting.

### 4. What categories/types of stakeholders are most impacted?

**Answer:** 1) Recreation users such as fishing, boating, camping, etc.; 2) residents and businesses protected from flood damage; 3) hydropower, 4) environmental interests (including Endangered Species – Spring Chinook, Winter Steelhead, Bull Trout & Oregon Chub receive most of the focus but there are 26 listed species in the basin); 5) agriculture – water supply for irrigation; 6) Native American – the Grande Ronde Tribe is very interested in the salmon recovery. They have tribal treaty rites at Willamette Falls to dip net for subsistence fishing.

## 5. What roles did the collaborator's play and what types of resources did they bring to the table?

**Answer:** The collaborators supply critical data and technical capabilities, facilitate coordination and participate in public outreach. All of the members of the Interagency Flow Management Workgroup work diligently to develop the best Water Conservation Plan and make the most useful recommendations based on real time data as possible. The views of the collaborators are taken very seriously and are fully considered in the final recommendations and decisions. One of the reasons the collaboration is so effective is because many of the personnel involved have been working annually on this effort for years and have a unique level of trust and respect for one another

### 6. What written or unwritten expectations existed among the collaborators?

**Answer:** The collaborators understand that there are legal documents that influence the decision making process. The written expectations are found in these documents. The collaborators also understand that a certain element of flexibility exists within the legal documents. Unwritten expectations have been established within this range of flexibility. One primary example is that the projects augment flows in order to maximize water quality while continuing to achieve the primary project purposes.

### 7. How were/are final decisions made regarding this effort?

There is a general guidance document that prescribes how decisions regarding reservoir operations are made. Consistent with that document, the Willamette River Basin Interagency Flow Management Workgroup convenes to produce a Water Conservation plan which prescribes the operations for a given water year. Monthly follow up meetings and weekly phone conferences are held during the conservation season to make real-time decision recommendations. Based on the input from the workgroup, the District Engineer usually makes the final decisions. Occasionally, final decisions are elevated to the Division Commander.

### 8. Were/are the collaborators satisfied with this process?

Answer: Yes. However, there were occasions in the past where mistakes were made with respect to stakeholder involvement. There are certain reservoirs where recreation is an important component to the local communities. There were times when these communities were going to be adversely affected by reservoir operations and the stakeholders were not fully engaged. Public meetings were held somewhere between the District Office and the communities instead of being held at the communities. Also, the meetings were not held early enough in the season to provide as much time as possible for the local communities to respond and/or adapt. Now the Corps has developed a much more pro-active approach towards working with and communicating with the stakeholders.

## 9. What methods, approaches, or tools did you use to identify collaborators and establish a collaborative framework?

**Answer:** The workgroup membership evolved over time. Some formal letters were written to invite members of government agencies to be part of the workgroup. Members of different government offices were aware of major stakeholders to include. Also, pubic meetings, press releases and informal meeting with community leaders were used. A website was also established.

## 10. What was the framework or structure that was used to organize the collaboration?

**Answer:** An annual water resources conservation plan is developed. The plan is developed by the interagency workgroup. The workgroup receives data from various technical groups. When the plan is in draft form, it is made available to stakeholders for input. Once the workgroup develops the final recommendation they are forwarded to the District Engineer for approval. There is coordination between the District and the Division because the Division is responsible for controlling the flows throughout the Columbia River Basin. (Figure X-2)

## 11. What tools, methods, techniques, ground rules or approaches were used to facilitate continued & ongoing collaboration?

Answer: Proper documentation has been one of the most important methods of facilitating effective collaboration. Many documents are used in this effort including the overall guidance document, the annual water conservation plans, meeting minutes, and an annual After Action Report. Holding consistent and effective meetings has been very important to our success. Some of those meetings include pre-conservation season planning meetings, monthly agency meetings and weekly conference calls during the conservation season, and annual After Action Meetings. In addition, there is an annual raft trip used as a team building event. The raft trip has really been a great way to build the partnerships and trust outside of the office in the Willamette Basin itself.

### 12. What tools, methods, and/or techniques were used to facilitate collaboration?

**Answer:** Technical models that everyone in the workgroup agrees are appropriate and that everyone on the committee can understand provide a sound basis for collaborative decision making. Also, the use of agreed upon data from reliable sources has been very important in the process. The data and models are used to project water availability during the conservation season. The workgroup uses the HEC 5 model for pool elevations and flows based on an 80 year period of record. This allows the group to use statistical analysis to forecast conditions based on various scenarios.

## 13. Was there any tool, approach or method that did not work well or that you would not recommend to others?

Answer: The approach towards public involvement in 2001 was ineffective. During that year there were some reservoirs that were going to be very low during the recreation season. The low water elevations had a substantial affect on the neighboring communities. The Corps did not inform the communities early enough in the year so that they would have an opportunity to adapt to the situation. In addition, when we planned the public meetings, we tried to hold them half way between the affected communities and the Corps district office. This resulted in few people from the community attending and, in the end, many stakeholders felt that the Corps did not take appropriate measures to communicate. After 2001, the Portland District has been very proactive to communicate with stakeholder through multiple venues and by making sure that we hold public meetings as early as possible and in the communities that may be most affected by the recommendations of the workgroup.

## 14. What were the costs (time/\$/etc.) and what were the benefit of using the collaborative approach?

**Answer:** Approximately \$100K/year is used by the Portland District to coordinate and participate in this committee. There is a significant amount of additional cost and time invested in planning in a collaborative way.

**Answer:** The benefits of collaborative planning include: 1) we produce a higher quality water control plan; 2) we are able to proactively address issues before they become unmanageable; 3) it allows multiple purposes to be addressed in the most effective manner; and 4) it helps the Corps avoid getting into horrible relations with other agencies, the stakeholders and the general public

## 15. What obstacles (Corps policies, other agency policies, etc.) had to be overcome to facilitate the collaborative framework?

**Answer:** In this case, none. The members of the workgroup have been able to work within their agency guidance and effectively get the job done.

## 16. Would things have turned out differently if a less engaging less collaborative approach was taken?

**Answer:** There would be a high level of contention between various public agencies. There would also be a high level of contention with and between various public groups. The resources would not be managed to produce as high a level of benefits and we would not be able to make as many strides towards improving water quality and aquatic habitat for endangered species.

## 17. If you had to do it all over again, what would you have done differently with respect to who and how collaboration was implemented?

**Answer:** The lessons learned are mostly related to proactively engaging the public as discussed above. In addition, we conduct an After Action Meeting each year which allows us to continue to making changes as needed.

### Lessons Learned

- 1. The Portland District has a Willamette River Basin Coordinator position in their Planning Programs and Project Management Division. Having one person as the primary point of contact for Basin activities has fostered healthy partnerships and facilitated effective collaboration among the agencies and stake holder groups.
- 2. Although the collaborative structure for the Willamette River Basin Interagency Flow Management Workgroup has evolved over the years, the Portland District has effectively used documents to describe roles and responsibilities, manage expectations within the partnership, record group decisions and provide lessons learned that can be implemented in future years.
- 3. The Portland District has implemented a proactive approach towards communicating with stakeholders by sharing both positive and negative information as early and often as possible. The district has also used multiple methods of communication such as radio, news papers, websites, letters and personal points of contact to reach the broadest group of stakeholders.
- 4. The Portland District has established an annual rafting trip as a team building exercise to continue to foster ongoing collaboration. Considering activities outside the work environment is a good way to improve relationships and build partnerships.

95

## Section III ANALYSIS AND LESSONS LEARNED

### Section III

### **ANALYSIS OF CASE STUDIES**

Below is a series of side-by-side comparisons of the nine cases on a number of dimensions including:

- Type of study or project
- What collaborative approach was used
- Roles/kinds of collaborators
- Organizational structure for the collaborative approach
- Decision making
- Stakeholder involvement
- How process expectations were established
- Status of relationships prior to collaboration
- Methods, tools and techniques to establish a collaborative framework
- Benefits/costs of using a collaborative approach
- What would have happened with a less collaborative approach
- Institutional barriers that had to be overcome
- Methods or tools that were ineffective/things they would do differently
- Study manager training and preparation
- Lessons learned

Following each side-by-side comparisons there is an analysis section that extracts insights about collaborative planning based on the six cases.

### Type of Study or Project

### Side-by-Side Comparison:

Type of Study or Project	
Ala Wai Canal Watershed Study	Flood damage reduction and ecosystem restoration
Comprehensive Everglades Restoration Plan	Restoration of the South Florida ecosystem. The plan will develop large quantities of surface and below-surface storage to capture stormwater runoff, and then will direct this water to

	targeted areas.
Eugene-Springfield Metro Waterways Study	Develop a "system approach" that integrates multiple water resource uses and jurisdictions in a single plan.
Harris County Flood Reduction Projects	Flood damage reduction projects. The local sponsor took the lead in planning, design and construction of many of the projects, and was then reimbursed for the Federal share by the Corps.
Illinois River Basin Restoration Study	Comprehensive plan to restore the ecological integrity of the Illinois River
Perdido Pass Navigation Project	Navigation dredging. Use of dredged material for post-hurricane ecosystem restoration
Poplar Island Environmental Restoration Project	Use of dredged material to reconstruct remote island and marsh habitat in Chesapeake Bay
Va Shly' Ay Akimel Salt River Restoration Study	Ecosystem restoration study undertaken with a sovereign Native American Indian Community as the non-Federal sponsor
Willamette River Basin	Operational management of multi-purpose project. Protect ecosystem while satisfying flood control requirements

Six of the projects were large, multi-year planning efforts. A seventh involved preparing an annual operations plan governing operations for the entire Willamette River Basin. Size and complexity of a project may be an important consideration in the decision to use a collaborative planning methodology, although both the Perdido Pass and Ala Wai Canal studies were relatively small studies.

Each project had a significant environmental component. They illustrate the extent to which environmental quality and restoration are increasingly part of Corps' planning.

Each project required the involvement of several, and often myriad, Federal, state and local agencies for the project to be implemented in an effective or timely manner. That may also explain the environmental character of all the studies. Studies involving environmental issues may, by their very nature, require greater inter-agency coordination.

## Why a Collaborative Approach Was Used

Why a Collaborative Approach Was Used	
Ala Wai Canal Watershed Study	Information was needed from all parties to identify problems and formulate solutions. Stewardship of the resource was distributed among many agencies at different levels of government. Much of the implementation would need to be carried out by agencies other than the Corps.
Comprehensive Everglades Restoration Plan	Project required massive planning and implementation by numerous Federal and state agencies. Legislation established a task force and working group including Federal agencies, state agencies, two Tribal Nations, and local governments.
Eugene-Springfield Metro Waterways Study	Need to integrate many water resource demands while incorporating the ongoing efforts of multiple levels of governmental agencies and stakeholders in the area. Need to generate broad acceptance for the plan to facilitate implementation of the plan
Harris County Flood Reduction Projects	Federal legislation permits local sponsor to take lead in planning, design and construction, but must follow Corps rules and procedures, requiring extensive coordination.
Illinois River Basin Restoration Study	Many federal, state and local government agencies were already active in the watershed, with many ongoing programs and studies. Conflicting interests of stakeholders. Comprehensive nature of study required involvement of many parties
Perdido Pass Navigation Project	Post hurricane dredging required larger or additional disposal areas than previously authorized. New permits were required from environmental regulatory agencies. A collaborative project held promise of expedited permitting for a project that met both navigation and ecosystem restoration purposes.
Poplar Island Environmental Restoration Project	Low-level of trust among agencies and stakeholders at beginning of study. Need for public acceptance of the project to ensure implementation. Costs of inter-agency conflict would have been high
Va Shly' Ay Akimel Salt River Restoration	No possible way to develop a successful project without all of these groups coming together. They needed each other on

Study	many levels. One local sponsor was a sovereign Tribal Nation.
Willamette River Basin	Need to address the requests of multiple stakeholders while complying with existing authorizations. Considerable potential for high levels of contention. Collaborative effort held the potential for greater natural resource benefits within existing authorizations.

Based on these cases, collaborative planning is more likely to be used when one or more of the following conditions are present:

- There is a significant environmental component to the project, requiring technical expertise of state and Federal environmental agencies
- There is a need for an integrated total system-approach that utilizes programs and funding of numerous governmental agencies, Federal, state or local
- The Corps would be unable to implement the program by itself; implementation requires action from other governmental entities
- There is considerable potential for significant controversy without collaboration, and there are high levels of pre-existing interagency and stakeholder involvement on similar issues

#### **Kinds of Collaborators**

Kinds of Collaborators	
Ala Wai Canal Watershed Study	State of Hawaii was non-federal sponsor. Federal, State and local governments extensively involved. Academic and research scientists involved.
Comprehensive Everglades Restoration Plan	Departmental level federal task force includes federal, state, and local agencies and two Tribal Nations. Florida-based working group consisting of the same members. South Florida Water Management District acted for the State of Florida as the local sponsor. Working Group has both scientific and stakeholder advisory groups. Local sponsor has stakeholder advisory groups.
Eugene-Springfield Metro Waterways Study	Two city governments and a county government involved as sponsors. Numerous other municipal, state and Federal agencies consulted.

Harris County Flood Reduction Projects	Extensive coordination between Galveston District and Harris County Flood Control District, local sponsor and lead in planning, design and construction of three projects. Flood Control District responsible for coordination with local governments and stakeholder involvement.
Illinois River Basin Restoration Study	Extensive internal coordination among two Corps Divisions and four Corps Districts. Project sponsor is Illinois Department of Natural Resources. Involvement from a length list of local, state and federal agencies, water conservation districts levee and drainage districts, and stakeholder groups.
Perdido Pass Navigation Project	U.S. Fish and Wildlife Service (USFWS) and Alabama state agencies.
Poplar Island Environmental Restoration Project	State of Maryland (Port Administration) a sponsor. Extensive list of natural resources and regulatory agencies; members of academia; and a variety of stakeholder groups consulted.
Va Shly' Ay Akimel Salt River Restoration Study	City of Mesa, AZ, and Salt River Pima-Maricopa Indian Community were local sponsors. Technical advisory committee advised on development of model to designate wetlands type.
Willamette River Basin	Flow Management Workgroup involves five Federal agencies and twelve state agencies. Coordination with several other Federal agencies, ten municipalities, many watershed councils and stakeholder organizations

These cases show that the "collaborators" can be a wide range of Federal, state or local agencies. Typically they are "at the table" because

- They are a non-Federal sponsor,
- They have regulatory authority (the Corps will need to get a permit from them to implement the project),
- They share some form of jurisdiction for the resources being impacted,
- They possess technical expertise needed to address the problems
- Their participation is essential for implementation

## Organizational Structure for the Collaborative Approach

Organizational Structure for the Collaborative Approach	
Ala Wai Canal Watershed Study	The "Core Leadership Group" consisted of the Corps, State of Hawaii, Honolulu Board of Water Supply, and technical consultants. There was a technical advisory committee that included environmental regulators, research scientists with prior studies in the area; and watershed groups. Ad hoc committees were set up when appropriate.
Comprehensive Everglades Restoration Plan	The Department of the Army is the lead agency for the Federal Government, and the South Florida Water Management District has been designated as the local sponsor by the State of Florida. Federal law has established a policy-level task force and a Florida-based working group including federal, state and local governments and two tribal nations. The task force has established six regional teams with comparable membership. A scientific advisory board and stakeholder advisory board advises the Working Group. A stakeholder advisory group advises the Board of Directors of the South Florida Water Management District.
Eugene-Springfield Metro Waterways Study	The Executive Team includes the Corps, City of Eugene, City of Springfield, and Lane County. The Executive Team also received input from an existing Metropolitan Study Committee which included two elected officials each from Eugene, Springfield and Lane County. The study team included staff from the Corps and the three local governments. The study team received input from a Technical Team, consisting of technical experts from local, state and Federal agencies.
Harris County Flood Reduction Projects	A Section 211(f) Project Delivery Team has been established in the Galveston District. This team handles all projects where the local sponsor will take the lead in planning, design and construction. Staff from the Flood Control District and the 211(f) Project Delivery Team meet on a regular basis. Coordination with other local governments is handled by the Flood Control District.
Illinois River Basin Restoration Study	An Executive Committee chaired by the Corps Division, was the ultimate decision maker. It received recommendations from a Steering Committee including numerous Federal, state and local agencies. The day-to-day management of the project was

	handled by a System Team consisting of staff from the Corps and Illinois Department of Natural Resources. There were regional study teams that reported to the System team.
Perdido Pass Navigation Project	The Corps and USFWS set up an Interagency Working Group (IWG) that developed the plan and design for restoration of Florida Point. Participants in the IWG included the Corps, USFWS, three Alabama State agencies, and the City of Orange Beach.
Poplar Island Environmental Restoration Project	Ultimately decision making was shared between the Corps and Maryland Port Administration, both of whom brought funding to the table. The study was managed by an Ecosystem Restoration Project Coordination Team, with subgroups for site development, site operations, and adaptive management. The study team was advised by a multi-stakeholder Poplar Island Working Group, and a Dredged Material Management Group.
Va Shly' Ay Akimel Salt River Restoration Study	An Executive Committee was established with management from the Corp Field Office, City of Yuma, and Salt River Maricopa Indian Community. A Project Delivery Team was established with staff from the Corps and both non-federal sponsors.
Willamette River Basin	The Willamette Basin Interagency Flow Management Workgroup (IFMW) consists of five Federal agencies and twelve state agencies. The group collaborates with several other Federal agencies, ten municipalities, and many watershed councils and stakeholder organizations. The IFMW develops an annual Willamette Conservation Plan. These recommendations are submitted to the District Engineer. The District Engineers' final decision guides operations at a Corps Reservoir Control Center.

The two smaller studies – Perdido Bay and Ala Wai Canal – had comparatively simple structures. Perdido Bay had a single working group that included all the relevant Federal and state agencies. The Ala Wai Canal study had a slightly more complicated structure: there was a Core Leadership Group which included the Corps and state agencies, a technical advisory group that included additional Federal and state agencies and technical researchers, and additional committees were set up as needed,

For the larger studies there are some commonalities in organizational structure:

- There is a core team that manages the day-to-day operations of the study. This
  team will include, as a minimum, staff from both the Corps and the non-Federal
  sponsor. It may also include staff from regulators or other agencies which posses
  needed technical expertise.
- Typically there is a policy-level group whose primary function is to resolve issues
  that cannot be resolved horizontally within the core team. This policy-level group
  will include a senior manager from the Corps (typically either a District Engineer
  or Division Engineer) and a senior manager from the non-Federal sponsor, and
  may include senior managers from regulators or other agencies critical to
  implementation of the plan or project.
- All other interested agencies are part of work groups or advisory committees.
   They are often joined on those work groups/advisory committees by researchers/technical experts and staff of major stakeholder groups.
- There is some form of public participation process in addition, which provides opportunities for other stakeholder groups or the general public to participate in decisions.

## **Decision Making**

## Side-by-Side Comparison:

Decision Making	
Ala Wai Canal Watershed Study	Decisions made by agreement within Core Leadership Team which included the Corps, Hawaii State agencies, and technical consultants.
Comprehensive Everglades Restoration Plan	Final decisions are made by a Quality Review Board that includes the Commander of SAJ and the Executive Director of the South Florida Water Management District, with input from the Everglades National Park, USFWS, and senior executives from the Department of Interior. At the project level, each project has two project managers. One project manager is from the Corps and one is from the Water Management District. They can make project level decisions if they aren't elevated.
Eugene-Springfield Metro Waterways Study	Decisions are made by agreement of the four parties in the Executive Team (Corps, Eugene, Springfield, and Lane County).
Harris County Flood Reduction Projects	Decisions made by agreement between Galveston District Project Delivery Team and Flood District staff.
Illinois River Basin	Executive Team (Corps, Illinois DNR) mades decisions based on input from a state/federal interagency Steering Committee,

104

Restoration Study	and a Corps/DNR staff team.
Perdido Pass Navigation Project	All members of the Interagency Working Group served as equal partners in developing and implementing the plans. The Corps provided funding. The USFWS and Alabama regulators provided needed permits.
Poplar Island Environmental Restoration Project	Final decision by Corps and Maryland Port Administration based on recommendation from interagency team.
Va Shly' Ay Akimel Salt River Restoration Study	Most decisions made by consensus of Project Delivery Team which included representatives of Corps and two non-federal sponsors. Executive Committee would resolve any issues by consensus that could not be resolved at the Project Delivery Team level.
Willamette River Basin	The Willamette Basin Interagency Flow Management Workgroup develops an annual plan based on agreement within the group. This recommendation is sent to the Corp District Engineer for final approval and implementation.

There are two decision making models that appear in these cases:

- 3. A Corps manager and a manager from the non-Federal sponsor make final decisions based on (and giving considerable deference to) recommendations from an interagency study team, and/or working groups.
- 4. Consensus decisions by all agency collaborators.

One of the key considerations is the level of political support necessary to obtain funding or implement the project. The more the Corps and project sponsors need support of other organizations/agencies, the more likely others will be included in actual decision making

#### **Stakeholder Involvement**

Stakeholder Involvement	
Ala Wai Canal Watershed Study	Federal, state and local agencies, and researchers, participated in a Technical Advisory Committee. Core Group held individual meetings with agency representatives, interested groups and private citizens (usually land owners) who wanted to express

	their views.
Comprehensive Everglades Restoration Plan	Both Corps and South Florida Water Management District conduct extensive public involvement processes including meetings, web sites, and newsletters. Both Working Group and local sponsor have an advisory group structure than includes stakeholder participation.
Eugene-Springfield Metro Waterways Study	The study team maintains an extensive public information program and conducts periodic watershed workshops for interested groups and individuals.
Harris County Flood Reduction Projects	Flood Control District conducts stakeholder involvement process for each project, and publishes periodic newsletters.
Illinois River Basin Restoration Study	Stakeholder meetings held annually in each region. Additional stakeholder meetings to review interim products. Illinois River Coordinating Council (secretaries of five state agencies and the Lt. Governor) coordinated state activities and held public meetings.
Perdido Pass Navigation Project	Agency participation only.
Poplar Island Environmental Restoration Project	Stakeholders participate in working groups along with agencies. Public meetings and public hearing held to review environmental impact statement.
Va Shly' Ay Akimel Salt River Restoration Study	NEPA-related public meetings conducted by all three parties. 46 member technical advisory committee.
Willamette River Basin	The IFMW coordinates with other Federal agencies, ten municipalities, many watershed councils and stakeholder organizations. Periodic meetings in potentially impacted communities.

All of the larger studies had significant stakeholder involvement processes in addition to collaboration between the agencies. Some stakeholders may participate on working groups or advisory committees, particularly if they are represented by staff with technical expertise. Otherwise they have the opportunity to participate in public workshops or meetings. Many of these programs had extensive public information programs as well. Larger studies tended to have web sites where they posted most

documents pertaining to the study. Access to some documents could be restricted through the use of passwords, but generally the approach was to make most report and publications available for access.

## **How Process Expectations Were Established**

How Process Expectations Were Established	
Ala Wai Canal Watershed Study	A Feasibility Cost Sharing Agreement was developed with the sponsor, task orders were issued to consultants, and an overall project schedule was developed.
Comprehensive Everglades Restoration Plan	A Task Force was established by federal law. The Task Force adopted a formal charter. Both Task Force and Working Group have formal protocols addressing decision making, dispute resolution, and use of advisory groups.
Eugene-Springfield Metro Waterways Study	Considerable time spent developing a written Charter.
Harris County Flood Reduction Projects	Almost one year spent agreeing on process and procedures that the Flood Control District would follow to comply with Corps rules and policies. Written agreements wherever possible.
Illinois River Basin Restoration Study	The roles and responsibilities of each committee were documented in writing.
Perdido Pass Navigation Project	No written agreement or charter. Pre-existing cooperative working relationship developed during Regional Sediment Management Program.
Poplar Island Environmental Restoration Project	A Project Cooperation Agreement was signed with the Maryland Port Administration. Contracts were signed between the Maryland Port Administration and Maryland Environmental services. Memoranda of Understanding were signed with USFWS, NMFS, and USGS. There are additional documents clarifying roles and procedures such as the Project Management Plan, Adaptive Management Plan, Habitat Development Framework, and a Monitoring Framework.
Va Shly' Ay Akimel Salt River Restoration Study	Project Management Plan outlined what the roles of various groups and individuals would be. There was an innergovernmental agreement between the Federal government and

	the Salt River Pima-Maricopa Indian Community.
Willamette River Basin	There is a general guidance document that prescribes how decisions regarding river operations are made. Group has been working together for some years, so high level of trust established.

All cases, except Perdido Pass, involved some sort of written documentation of roles and responsibilities. In some cases there were extensive protocols covering such issues as decision making and dispute resolution.

## **Status of Relationships Prior to Collaboration**

Status of Relationships Prior to Collaboration	
Ala Wai Canal Watershed Study	People outside the Corps were apprehensive about why the Corps was even interested in watershed and ecosystem related studies. Many thought of the Corps as having disregard for the environment. Some were suspicious of the Corps' motivation to undertake restoration actions. These obstacles were overcome during the study coordination.
Comprehensive Everglades Restoration Plan	No specific information provided.
Eugene-Springfield Metro Waterways Study	Prior working relationships [little other information]
Harris County Flood Reduction Projects	Generally good. But some frustration with Corps over how long projects took.
Illinois River Basin Restoration Study	No information available.
Perdido Pass Navigation Project	Good relationship based on agencies working together previously on Regional Sediment Management Project
Poplar Island Environmental Restoration Project	Tensions in the Chesapeake Bay community over prior high- profile and controversial projects.

Va Shly' Ay Akimel Salt River Restoration Study	Some prior working relationship at the Project Delivery Team level. Tribal community anticipated that its needs would be ignored by the Corps.
Willamette River Basin	Initial skepticism. Trust has built up over the years

Perdido Pass was the only case that reported a good working relationship prior to the immediate project/study. In most other cases there was a need to build trust over time. One issue that emerges in at least a couple of the studies is the Corps' reputation, with people expressing some surprise that the Corps is interested in or has expertise in environmental restoration. Also, one tribal nation expected the Corps to ignore its issues.

## **Methods, Tools and Techniques**

Methods, Tools and Techniques to Establish a Collaborative Framework	
Ala Wai Canal Watershed Study	Careful documentation of meetings.
Comprehensive Everglades Restoration Plan	To ensure participation, formal letters were sent to agencies. A contractor was hired to help identify groups that needed to be included. Then a server called the CERP Zone was made available to anyone with the pass code. All the data, reports and current information is available in real time. Project team uses web based teleconferences and has established a website.
	The US Institute of Environmental Conflict Resolution worked with the group to develop a set of "rules of engagement" at the beginning. Later, a Florida based firm was hired to mediate discussions and meetings. Eventually, the collaborators were able to continue without outside mediation.
Eugene-Springfield Metro Waterways Study	Documentation is critical. Used a two-day charrette when developing the Existing Conditions Report – everybody got away from office and really focused, good team building time.

Harris County Flood Reduction Projects	A leadership committee augmented by some kind of committee structure depending on the circumstances.
Illinois River Basin Restoration Study	Use of existing collaborative frameworks including the Illinois River Coordinating Council (secretaries of five state agencies and the Lt. Governor) which coordinated state activities
Perdido Pass Navigation Project	Prior working relationship from work on Regional Sedimentation Plan
Poplar Island Environmental Restoration Project	Used an existing collaborative framework that had been established to address used of dredged materials. Hired a consultant to "beat the bushes" and get the Corps connected with people who were interested in the project.
Va Shly' Ay Akimel Salt River Restoration Study	Held weekly meetings. The Corp worked closely with and shepherded the non-Federal partners in their production of inkind services (this was because there was a large amount of inkind services to be produced. Meeting locations were rotated so that there was an equal burden for travel and preparation
Willamette River Basin	Use of statistical models to forecast conditions based on various scenarios. Use of agreed-upon data and technical models from reliable sources. Annual rafting trip is a useful team-building exercise.

There was considerable agreement on the need for documentation, and careful recording of expectations and decisions.

There were several recommendations, but no techniques were mentioned in more than two cases. The recommended techniques included:

- (2 cases) Use of a two-day charrette or an out-of-the-office event (such as an annual rafting trip) to build a sense of team unity.
- (2 cases) Careful documentation of all meetings and decisions.
- (2 cases) Use of an existing collaborative framework or organizational structure.
- Use of an external facilitator/mediator until collaborators are able to work together without one
- Use of statistical models for forecasting conditions using multiple scenarios.
- Use of agreed-upon data and sources.

- Use of an external consultant to assist with public involvement.
- Rotate meeting location to equalize travel and preparation time (and get to know the organizational setting of the other team members)

## **Benefits/Costs of Using a Collaborative Approach**

Benefits/Costs of Using a Collaborative Approach	
Ala Wai Canal Watershed Study	Watershed effort took about one year and \$100,000. Collaboration was one of the major study costs.
Comprehensive Everglades Restoration Plan	Costs: On an effort of this magnitude the costs in time and dollars are substantial and must be planned for when developing Project Management Plans and other appropriate documents.
	Benefits: The Corps doesn't have all of the information internally that we need to take on an effort like this. We need the technical input from others who are much more abreast of the natural resources issues. Without reaching to a broad technical group we would miss major pieces of the problem identification and recommended plan. Also, you need this kind of strong partnership to obtain broad support to receive such a high level of funding from congress.
Eugene-Springfield Metro Waterways Study	The collaborative approach requires more time and money upfront. However, a collaborative approach was necessary for "survival," saves money and time over the duration of the study, and builds the trust necessary for the project to be implemented.
Harris County Flood Reduction Projects	A considerable amount of funds go towards implementing and maintaining an effective collaborative process. However, Flood District convinced that without it nothing would get done. In the end, they have been able to utilize the process to make the projects better and secure substantial amounts of funds.
Illinois River Basin	Costs: "Substantial" time and dollars put into collaboration.
Restoration Study	Benefits: Problems too big and broad-based for the Corps to solve alone. Full range of collaborators will be needed to implement the plan in the end.
Perdido Pass Navigation Project	Dramatic cost savings in time and money in comparison to traditional approach.

Poplar Island Environmental Restoration Project	Costs in time and money are very high. The benefits outweigh the costs for several reasons: efficient and high-quality decision; when things go wrong, the collaborative framework facilitates effective handling of the situation; it was the only way to implement this complex project, and it effectively addresses the many facets of construction.
Va Shly' Ay Akimel Salt River Restoration Study	Costs: The cost in time was substantial.  Benefits:
	1) They were able to obtain the necessary real estate options. The City of Mesa owned part of the land while much of the land is owned by the Indian community.
	2) We were able to leverage the resources needed to get the job done Mesa provided cash and the Indian community provided in-kind services.
	3) All of the groups needed to work together in order for the project to have the political support to move forward.
	4) There were many interests to consider that were necessary to coordinate for the project to be successful.
	5) There was a need for diverse skills in technical support to develop the model needed for formulation
Willamette River Basin	Approximately \$100,000/year is used by the Portland District to coordinate and participate in this committee. There is significant cost and time invested in planning in a collaborative way.

There was general agreement that collaborative planning is more costly and timeconsuming than more traditional planning, particularly initially. The one exception was the Perdido Bay Case, where the collaborative approach led to dramatic cost savings in both planning and implementation.

There was agreement that the investment of time and money in collaborative planning was more than compensated for by the benefits received. There were some indications that a collaborative process results in costs savings during the implementation phase.

## What Would Have Happened With a Less Collaborative Approach

What Would Have Happened with a Less Collaborative Approach	
Ala Wai Canal Watershed Study	The product would not have been as comprehensive or helpful to anyone outside the Corps and the sponsor. Product would have had less utility. Other agencies would not have endorsed the findings and would not have included the proposed projects in their programs.
Comprehensive Everglades Restoration Plan	"We would never have gotten off the ground."
Eugene-Springfield Metro Waterways Study	More arguing, less support and good will, leading to a loss of time and total failure in the long-run.
Harris County Flood Reduction Projects	They would have failed to accomplish anything.
Illinois River Basin Restoration Study	The study would have been less comprehensive. There would have been fewer resources to draw on for implementation, and the plan likely would not have been supported during Washington level review.
Perdido Pass Navigation Project	State agencies granted permits and clearances in several weeks, rather than several years, and the USFWS dramatically expedited the ESA consultation process. If the environmental restoration had been done in the usual manner, the study would have taken 3-5 years (instead of less than one year) and cost several million dollars (instead of \$700,000.)
Poplar Island Environmental Restoration Project	Project would not have come as far as it has. Possible failure to implement, and certainly would have cost more money dealing with the many problems that have come up over time.
Va Shly' Ay Akimel Salt River Restoration Study	Never would have successfully developed a recommended plan. The Indian council would never have moved forward if the Native American community was not fully engaged and considered in this planning effort.

Basin public agencies. Could not h	of contention between various have achieved as high a level of ade significant strides towards aquatic habitat.
------------------------------------	---

There was a high level of agreement that the studies/projects would have been considerably less effective had there been no collaborative planning. The likely outcomes without collaborative planning included:

- There would have been delays in obtaining regulatory permits.
- Implementation would have been delayed, or would not have occurred at all.
- There would have been considerably more contention and controversy.
- The product would not have been as comprehensive or useful.

#### Institutional Obstacles that Had to Be Overcome

Institutional Obstacles that Had to Be Overcome	
Ala Wai Canal Watershed Study	Culture within the Corps – agency has been slow to embrace new missions such as watershed planning and environmental issues.
Comprehensive Everglades Restoration Plan	There are Corps policies and other agency policies that make collaboration a challenge. Also, Corps culture is very protective. When the lawsuits started to come, the agency became less open, started meeting more behind closed doors and became much more formal. Under pressure, the collaboration became much more narrow.
Eugene-Springfield Metro Waterways Study	Existing Federal laws and regulations
Harris County Flood Reduction Projects	Internal relationships within the Corps; communication problems between District, Division, and HQ. Changes in Corps priorities.
Illinois River Basin Restoration Study	Corps policy says that a collaborative plan may not be considered when it is relying on other agencies/groups to implement various parts. The length of the Corps policy review has reduced momentum and created uncertainty at the end of

	the process.
Perdido Pass Navigation Project	Corps was under time pressure to get the channel open and get on to other high priority navigation projects. There was a time limit on the use of emergency funds for the project. Time for permitting process had to be sped up dramatically.
Poplar Island Environmental Restoration Project	Numerous Federal and state policies [undefined] that had to be overcome.
Va Shly' Ay Akimel Salt River Restoration Study	Some of the policy made things difficult because we were dealing with a sovereign nation. There was a hiker-biker path in the plan and there was some issue related to the path being limited to the use of the Indian community only.
Willamette River Basin	Existing authorizations

There were allusions to Corps policies that posed barriers to collaboration but the case studies did not provide a significant amount of information about institutional barriers. The "culture" within the Corps was mentioned several times, but there was not an agreed-upon definition of which characteristics of Corps culture posed a barrier.

The two other institutional barriers were:

- A belief that Corps policy requires that all plans must be within the power of the Corps to implement
- Extended policy reviews that reduce momentum and create uncertainty.

The Harris County case was interesting because the local sponsor took the lead in design and construction, then received reimbursement from the Corps. The two organizations worked together for more than a year to establish an understanding of how to apply Corps rules and procedures in this situation. However, the local sponsor believes that these issues have been largely resolved and would not pose a barrier to other local sponsors who wished to take the lead under Section 211(f). The Flood District did comment, however, on problems caused by internal disagreements between different levels of the Corps, as well as changing Corps priorities.

## Ineffective Tools or Approaches/Things They Would Do Differently

Ineffective Tools or Approaches/Things They Would Do Differently	
Ala Wai Canal Watershed Study	Would involve decision makers at a higher level so that they could more easily endorse the plan in the end. Be more proactive about involving decision makers early and often.
Comprehensive Everglades Restoration Plan	The Corps and the South Florida Water Management District were going to have one unified budget and schedule that could be engaged in real time on the CERP Zone. A lot of time and energy was put into making this happen but in the end it failed because the SFWMD was on a different fiscal calendar, used their financial management system for pay roll and the Corps adopted P2. The way the two partners used their financial systems and the purposes of them were not entirely compatible. Now, the Corps and SFWMD keep two separate financial systems and share hard copies with each other to track major milestones.
Eugene-Springfield Metro Waterways Study	Corps staff initially tried to work independently with their counterparts in collaborative agencies. This was not efficient and did not produce cohesiveness. When everybody was brought together in an organized facilitated framework there was much more success.
Harris County Flood Reduction Projects	Involve citizens' watershed groups from the beginning.  Document the relationship with environmental agencies so that it is not necessary to start over at square one every time there is a change in personnel.
Illinois River Basin Restoration Study	Would have used smaller work groups earlier in the process and used very large group/high attendance meetings for information exchange.
Perdido Pass Navigation Project	None. "This project could be a model of how to conduct an emergency restoration process."
Poplar Island Environmental Restoration Project	None mentioned.
Va Shly' Ay Akimel Salt River Restoration Study	Would have re-thought how we approached in-kind serves either by scoping fewer in-kind services or more time and funds to manage them. Would have planned increased coordination time for working with the Indian community and would have

	considered the perspective of a sovereign nation more in how the study was scoped. The Native American community and culture was less inclined to move things at a pace that is as fast as the Corps. Usually, it is the other way around and our sponsors want to move faster than we are able too.
Willamette River Basin	Held public meetings in locations other than in communities where reservoirs were located (which were sometimes adversely impacted by reservoir operations). Also meetings not held early enough in season. Result was that stakeholders were not fully engaged. Corps has since adopted a much more proactive approach towards working with and communicating with the stakeholders.

There was no consistent message about ineffective tools, but based on these cases, future study managers would be advised to:

- Use proactive public involvement; hold meetings in communities that are impacted.
- Work as a group particularly in the beginning rather than individually with collaborators.
- Use smaller work groups in preference to large public meetings (which should be informational only)
- Engage higher-level decision makers throughout the process, to make it easier to get buy-in during implementation.
- Be aware that management of in-kind services is time-consuming and sensitive
- Accommodate cultural differences about use of time, particularly when working with Tribal Communities.
- Document the relationship/agreements with environmental agencies so there is less time lost when there are personnel changes.

## **Study Manager Preparation and Training**

Study Manager Training and Preparation	
Ala Wai Canal Watershed Study	Study manager didn't feel well-prepared. Did participate in Seattle District's Leadership Development Program. Would have liked additional training in communication.

	,
Comprehensive Everglades Restoration Plan	Many years of service in this district and other district's along with various formal training opportunities provided the preparation needed to be successful in this effort. Toast Masters was valuable for developing communication skills. Training in conflict management and negotiations has been very valuable. Training that helped me to understand our agency and other agencies has been invaluable. Basic training in leadership has been very important.
Eugene-Springfield Metro Waterways Study	Study manager felt well-prepared. The most important training was on-the-job training and mentoring. Could have used training on conducting watershed studies
Harris County Flood Reduction Projects	[Flood Control District Project Manager] A lot of experience collaborating at a local level, but didn't understand the Corps process as well as he thought he did. Took several Corps training courses to familiarize himself with Corps processes and procedures.
Illinois River Basin Restoration Study	Study manager felt well-prepared. Excellent mentoring within District. Knowledge gained in Planning Associates. Would be helpful to have lessons-learned forums at Planning Conferences. Need adequately-funded Centers of Expertise.
Perdido Pass Navigation Project	Critical element in the success of the program was that the Corps Regional Sediment Management team had pre-existing relationships with USFWS and Alabama State agencies. Collaborative working relationship was already established and could be transferred directly into this project. The Regional Sediment Management team and on-the-job experience provided adequate training.
Poplar Island Environmental Restoration Project	Study manager felt well-prepared. Most important training was on-the-job. Public involvement training useful. Also able to draw on skills from a multi-disciplinary team. Training in adaptive management would have been useful.
Va Shly' Ay Akimel Salt River Restoration Study	Previous work experience both in and out of the Corps was very helpful. A background in business management was also helpful. Previous training that was helpful included: group projects in college, group dynamics, the SPD Leadership Development Program, M.S. in Business with training in facilitation, the SPD Plan Formulation Course and experience in the Peace Corps.
	Additional training that would be helpful: Training and guidance on how to handle in-kind credit for services from the non-Federal sponsors would have been very helpful. This issue has

	a significant impact on collaboration. Maintaining a collaborative atmosphere while attempting to receive the appropriate products in a timely fashion can be challenging. Managing and defining the expectations is critical. [In the case of this study, the non-Federal cost-share was \$2.375 million of mostly in-kind services.]
Willamette River Basin	Study manager felt well-prepared. On-the-job training and mentoring by senior planners helped develop skills. The most helpful additional training would have to do with working with multiple technical disciplines and organizing groups.

- All but one of the study managers felt adequately trained to manage the study, athough one other found he needed additional training.
- By far the most valuable training was on-the-job training and mentoring by senior planners.
- General leadership training was mentioned as having value. Training in public involvement, dispute resolution and facilitation also proved valuable.
- Other kinds of training study managers said they would like to receive included:
  - Working with multi-disciplinary groups/organizing groups
  - o Communications training
  - o Technical training such as watershed planning or adaptive management
  - Training on how to handle in-kind services

#### **Lessons Learned**

Lessons Learned	
Ala Wai Canal Watershed Study	<ul> <li>Make sure that all stakeholders – including their decision makers – are kept informed of study process; this simplifies ultimate endorsement.</li> </ul>
	<ul> <li>Broad group of collaborators from the beginning resulted in greater buy-in for implementation of activities outside Corps authority.</li> </ul>
	• Study manager doesn't need to know everything – with a

	listen-and-learn attitude, the direction will be clear.
Comprehensive Everglades Restoration Plan	<ul> <li>Remember that we don't have all of the answers.</li> <li>Collaboration makes our understanding of the problems much more complete and allows us to develop the best solutions to address them.</li> </ul>
	<ul> <li>Strive to understand where other agencies and groups are coming from. They may have a different view but it is usually for a good reason. Understand how other organizations work and what the forces are that drive them to make decisions.</li> </ul>
Eugene-Springfield Metro Waterways Study	<ul> <li>Help the non-Federal partners understand the Federal budgeting process.</li> </ul>
	<ul> <li>If non-Federal partners are unified on funding priorities their effectiveness is enhanced.</li> </ul>
	<ul> <li>Take the time to develop a charter – it saves time in the long run.</li> </ul>
	Use existing organizational structures whenever possible.
	Facilitation of meetings is beneficial
	<ul> <li>An out-of-office forum, such as a charrette or forum, serves as a great team-building event.</li> </ul>
Harris County Flood Reduction Projects	<ul> <li>Go out and engage the public groups often. They need to get to know you and you need to get to know them so that you can trust each other and the groups/agencies that are represented.</li> </ul>
	<ul> <li>Get the citizens who live in the project area involved in as many ways as possible.</li> </ul>
	<ul> <li>As a non-Federal partner, it is important to become fully integrated with the Federal agencies.</li> </ul>
	<ul> <li>Keep all elected officials informed of the progress being made and of any issues where they can be of help.</li> </ul>
Illinois River Basin Restoration Study	<ul> <li>Break into small work groups instead of using large working meetings.</li> </ul>
	Use facilitators in meetings
	Take the time to develop an MOU for internal coordination
	<ul> <li>Working together with partners to estimate the types of tasks and order of magnitude of funding, by agency, in order to achieve implementation – clarified a great deal</li> </ul>

	about roles and responsibilities.
Perdido Pass Navigation Project	<ul> <li>Value of having established an effective working relationship with the other agencies. Shows how quickly work can be accomplished when there is an established working relationship and agreement on goals.</li> <li>Critical habitat can be restored and will be utilized by the</li> </ul>
	species.
Poplar Island Environmental Restoration Project	Communicate problems in a timely and forthright manner.
	<ul> <li>Publish a monthly newsletter to inform all stakeholder and interested parties – and the chain of command</li> </ul>
	<ul> <li>Learn the laws, regulations and policies of all the collaborating parties</li> </ul>
	A successful collaborative project has payoffs for many other studies and projects in the future.
Va Shly' Ay Akimel Salt River Restoration Study	<ul> <li>Understand that managing in-kind services is time consuming and challenging – either scope less of them or allow more time and funds to manage them.</li> </ul>
	<ul> <li>Understand the different time perspectives of different agencies. In particular, allow for much slower perception of time when working with Tribal Communities.</li> </ul>
Willamette River Basin	Having one person as the primary point of contact for all Basin activities has fostered healthy partnerships and facilitated collaboration.
	<ul> <li>Documentation essential to describe role and responsibilities, manage expectations, record group decisions and lessons learned.</li> </ul>
	<ul> <li>Need for a proactive approach towards communicating with stakeholders.</li> </ul>
	Use multiple methods of communication with stakeholders.
	<ul> <li>Activities outside the work environment (e.g. annual raft trip) are useful to improve relationships and improve partnerships.</li> </ul>

The study managers proposed a number of recommended "best practices." However, there was not much overlap, so little can be said except to present the list above.

#### **OVERALL LESSONS LEARNED FROM THE NINE CASE STUDIES**

These studies present a sampling of the kinds of collaborative planning going on in the Corps today. Although the sample size is not large, there were a several points on which there was a high-level of agreement:

- In all nine cases, collaborative planning was judged to be a success.
- There are a number of Corps studies that involve so many collaborators and stakeholders that only a collaborative planning approach has any hope of producing the credibility and commitment necessary for implementation -- there would have been no point in undertaking the study without collaborative planning
- Collaborative planning can be more time consuming and costly in comparison with traditional planning particularly at the front-end of the study (but as noted above, in many cases traditional planning is not an option)
- In most cases, collaborative planning produced long-term savings, particularly when it came time for implementation
- There was agreement in all nine cases that without collaborative planning there would have been a number of negative outcomes
- On-the-job training and mentoring is essential to equip study managers to conduct collaborative planning processes

## **APPENDICES**

# Appendix 1 EC 1105-2-409 PLANNING IN A COLLABORATIVE ENVIRONMENT

U.S. Army Corps of Engineers Washington, D.C. 20314-1000

CECW-CP Washingto

Circular 31 May 2005

No. 1105-2-409

# EXPIRES 30 SEPTEMBER 2007 Planning PLANNING IN A COLLABORATIVE ENVIRONMENT

- 1. <u>Purpose</u>. The purpose of this Circular is to provide revised procedures for the conduct of Corps water resources planning and the preparation of feasibility level (decision) reports that require authorization by the United States Congress and those that are approved under delegated authority.
- 2. <u>Applicability</u>. This Circular applies to all HQUSACE elements, laboratories, major subordinate commands and district commands having Civil Works responsibilities. It is applicable to all Corps of Engineers Civil Works decision documents. Further information incorporating these concepts into the Continuing Authorities Program (CAP) will be in the CAP guidance.
- 3. References. See Appendix A.
- 4. Background and Policy.
- a. The Corps traditional approach to water resources planning was designed to facilitate problem solving and decision making for specific sites and projects. Concerns about this approach have included: over-reliance on national economic development (NED) as the primary selection criterion, (2) constraining Corps work to a narrow sub-set of "Federal interest" purposes defined as Corps priority budget outputs (primarily flood damage reduction, commercial navigation and ecosystem restoration), and (3) the amount of time it takes to complete Corps planning. In addition, the existing Corps planning guidance in ER 1105-2-100 provides little help in cases which the public looks to the Corps to use problem-solving planning capabilities beyond traditional project-level implementation planning.
- b. Today, the Corps is being asked to use its planning capability to facilitate, convene, and advise, and to work collaboratively with other Federal and State programs in developing solutions that integrate programs, policies, and projects across public agencies. The public also expects continued progress in implementing the Corps Environmental Operating Principles, particularly with regard to requirements for mitigation, monitoring and adaptive management. Finally, recent criticisms regarding

EC 1105-2-409

EC 1105-2-409 31 May 05

Corps technical analyses demand improvements in the quality control of the science and engineering that are the foundation for decision-making.

- c. As a result, the Corps has developed guidance that reemphasizes current guidance or provides improvements to the Corps planning in a collaborative environment. Five of these provisions are established in this Circular and four others are the subjects of separate Circulars. All these provisions will be incorporated into ER 1105-2-100.
- (1) Timeframe for Planning Planning studies will be completed in three years. Collaborative, watershed studies may be granted an exception to this requirement.
- (2) Federal Interest Collaborative planning activities that embrace the full range of the Federal interest (more than Corps authority) will be given highest priority in assembling the Corps Civil Works budget request.
- (3) Plan Selection Any alternative plan may be selected and recommended for implementation if it has, on balance, net beneficial effects after considering all plan effects, beneficial and adverse, in the four <u>Principles and Guidelines</u> evaluation accounts: National Economic Development, Environmental Quality, Regional Economic Development, and Other Social Effects. Current policies on cost sharing will apply.
- (4) Natural Resources Mitigation Mitigation planning is an integral part of the overall planning process. Implementation of any justified measures will be accomplished at the same time as the project.
- (5) Monitoring and Adaptive Management Adaptive management takes into account the uncertainties that exist regarding decisions made to undertake water resources projects and allows decision making and implementation to proceed with the understanding that project performance will be assessed and evaluated, thereby acknowledging that some structural or operational changes to the project may be necessary to achieve the desired results.
- (6) Peer Review The purpose of peer review is to ensure the quality and credibility of the Corps scientific information. The guidance closely follows the <u>Final Information</u> <u>Quality Bulletin for Peer Review</u> by the Office of Management and Budget (2005). Guidance on peer review is being issued in EC 1105-2-408.
- (7) District Engineer Presentations A Civil Works Review Board (CWRB) was established to hear Major Subordinate Commands (MSC) and District Commanders present the results of the studies and their recommendations contained in decision documents for projects that require authorization by the United States Congress. Guidance on this subject is in EC 1105-2-406.
- (8) Summary Report A Division Engineer's Transmittal Letter that endorses and transmits the final feasibility report packages for Washington level review will include a

Report Summary following a standard format that is intended to provide a concise and comprehensive summary of the feasibility study and its recommendations. Guidance on this subject is in EC 1105-2-405.

(9) Planning Models Improvement Program - The PMIP is a process to review, improve, and validate analytical tools and models for Corps Civil Works business programs. Guidance on this subject is in EC 1105-2-407.

### 5. <u>Timeframe for conduct of reconnaissance and feasibility studies.</u>

- a. The reconnaissance and feasibility studies will be completed within 3 years. The time period will start with the first obligation of study (GI) funds and will end on the date of the signing of the Chief of Engineers Report, assuming necessary funds are made available.
- b. Feasibility phase. The feasibility study will be conducted in accord with the guidance in this Circular, ER 1105-2-100, and related guidance. The level of analysis will be sufficient to provide a reasonable number of alternatives for decision-making.
- c. The requirement to complete studies in three years applies only to project-scale planning for implementation studies and does not apply to watershed studies or other more comprehensive planning activities. In cases where more than three years are necessary, the vertical team will review the PMP to determine if an exception is appropriate. The Planning Community of Practice Leader will approve any exceptions.

#### 6. Federal Interest.

- a. Collaborative planning with other Federal agencies and Tribes requires the Corps to move beyond the Corps interest and embrace solutions that reflect the full range of the national Federal interest (the collection of all responsibilities assigned to Federal agencies). Collaborative planning involves not only a traditional non-Federal cost sharing sponsor in partnership with the Corps, but also representatives from other Federal, State and local agencies as members of the study team and bringing their expertise, programs and projects together with the Corps. Collaborative planning is encouraged for traditional project scale planning and is essential to the success of watershed scale planning. In addition, such collaboration can improve the regulatory climate by addressing all the regulatory issues together and reaching agreements for siting various activities in advance.
- b. In Corps studies collaborative planning may result in a plan with components to be implemented by the Corps, other Federal, State, and local agencies as well as a streamlined regulatory process. When there are Corps components, the selection of those components should be based on the selection approach described in paragraph 7, below. Collaborative planning also includes Corps participation as a team member in other Federal, State, or local agencies planning activities where there may be no expectation of

^

EC 1105-2-409 31 May 05

construction or other work by the Corps as a result. Participation in other public planning will take advantage of the Corps special expertise in water resources. By bringing together the expertise and programs of all the appropriate Federal agencies, collaborative planning will solve problems at the proper scale, integrate solutions across purposes and business programs, and leverage Federal and others funds.

c. Collaboration is the keystone of the Corps watershed approach. Beginning with the Corps FY 2007 budget guidance, collaborative watershed planning activities (which involve, in addition to a traditional non-Federal cost sharing sponsor, participation and funding by other Federal agencies) will be given the highest priority in assembling the Civil Works budget request.

### 7. Plan Selection.

- a. Section 1 of the 1936 Flood Control Act states, in part: "It is the sense of Congress... that the Federal Government should improve or participate in the improvement of navigable waters or their tributaries including watersheds thereof, for flood-control purposes if the benefits to whomsoever they may accrue are in excess of the estimated costs, and if the lives and social security of people are otherwise adversely affected." Corps policy has extended this fundamental principle to navigation, ecosystem restoration, and other water resource effects that have historically defined the Corps interest.
- b. In continuing to implement the policy of the 1936 Act, all Corps planning studies will evaluate, display and compare the full range of alternative plans' effects across all four Principles and Guidelines' accounts (National Economic Development (NED), Environmental Quality (EQ), Regional Economic Development (RED) and Other Social Effects (OSE)). Planning reports will include a full discussion and display of the beneficial and adverse effects of each plan, and a comparison of costs and effects among plans as well as cumulative effects. The discussion and display will address each of the four accounts and will not be limited to any one account. For example, evaluation of inland navigation improvements should not only address effects on transportation savings but also security, safety and environmental advantages or disadvantages with respect to other modes of transport.
- c. The set of alternative plans judged to have net beneficial effects will be candidates for selection. The project delivery team in collaboration with the study partners and stakeholders will use the available data, analyses, input from peer review, and professional judgment to designate these candidate plans. After considering a plan's beneficial and adverse effects across all four accounts, the plan may be a candidate for selection if it has, on balance, (based on analyses and collaborative judgment) net beneficial effects. Conversely, after considering a plan's beneficial and adverse effects across all four accounts, the plan will be dropped from further consideration if it does not, on balance, have net beneficial effects. Plans may be judged, on balance, to have net beneficial effects when, given the full range of effects in all four accounts, no other

.

alternative plan or scale has a higher excess of beneficial effects over total adverse effects. A plan's individual project purposes or other categories of effects need not be individually justified. However, a purpose's separable costs must be individually justified. The key to making a judgment is in identifying and fully describing the best reasonable mix of beneficial effects at a reasonable cost.

- d. In addition to the alternative of taking no action (that is, the "future without condition"), each planning report will identify, at a minimum, the following plans from among the set of alternatives judged to have net beneficial effects:
  - (1) Locally preferred plan(s) if requested by a non-Federal cost-sharing sponsor.
- (2) National interest plan(s) address one or more products or services that reflect the full range of the Federal interest as defined in the study authorities and public laws, executive orders, and other statements of the Administration and the Congress. National interest plans may include traditional Corps plans (the NED plan, the NER plan, or the combined NED/NER plan), plans reflecting other Federal agency authorities/ interests/ contributions (Endangered Species plan, Total Maximum Daily Limit (TMDL) plan, urban renewal plan, and others) or any combination of such plans.
- (3) Nonstructural Plan(s) include only modifications in public policy, management practice, regulatory policy, and pricing policy. Nonstructural plans are not limited to flood damage reduction alone but shall be applied to other purposes as well.
- e. The reporting offices shall select any one of the candidate plans. The planning report will explain the rationale and basis for selection considering the beneficial and adverse effects in all four accounts. If an NED plan is not recommended, the report will explain the overriding reasons for selecting another plan based on Federal, State, local and international concerns and the preparing office will request a waiver from the ASA (CW) at the Alternatives Formulation Briefing (AFB), or shortly thereafter, but before the draft report is released.
- f. The report will clearly present the responsibilities of the various parties and the funding they will contribute. Appropriate agreements must also be proposed to assure that the necessary investments and actions to achieve the expected benefits are agreed upon. Current authorities and policies including cost sharing requirements will govern Corps participation.

#### 8. Natural Resources Mitigation.

- a. Current planning guidance (ER 1105-2-100) presents mitigation planning as an integral part of the overall planning process and is restated here for completeness and includes:
  - (1) Avoiding the impact altogether by not taking a certain action or part of an action;

\_

- (2) Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- (3) Rectifying the impact by repairing, rehabilitating or restoring the affected environment;
- (4) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- (5) Compensating for the impact by replacing or providing substitute resources or environments. "Replacing," means the replacement of fish and wildlife resources in-kind. "Substitute" means the replacement of fish and wildlife resources out-of-kind. Substitute resources, on balance, shall be at least equal in value and significance as the resources lost.
- b. The mitigation actions identified in (1) through (5) above are an integral part of the plan formulation process and may not be readily apparent as a separate element in a report. However, once the mitigation efforts that are part of plan formulation are complete and there are still significant effects to the environment that require mitigation, then appropriate compensatory mitigation will be developed in accordance with ER 1105-2-100, Appendix C. The feasibility report will include a mitigation plan whenever compensatory mitigation is identified as part of the recommended plan.
  - c. A mitigation plan shall include:
- (1) A description of the physical action to be undertaken to achieve the mitigation objectives within the watershed in which such losses occur and, in any case in which mitigation must take place outside the watershed, a justification detailing the rationale for undertaking the mitigation outside of the watershed;
- (2) A description of the lands or interests in lands to be acquired for mitigation and the basis for a determination that such lands are available for acquisition;
  - (3) The type, amount, and characteristics of the habitat being restored;
- (4) Success criteria for mitigation based on replacement of lost functions and values of the habitat, including hydrologic and vegetative characteristics; and
- (5) A plan for any necessary monitoring to determine the success of the mitigation, including the cost and duration of any monitoring, and to the extent practicable, the entities responsible for any monitoring.
- (6) In any case in which it is not practicable to identify in a mitigation plan for a water resources project, the entity responsible for monitoring at the time of a final report of the Chief of Engineers or other final decision document for the project, such entity

\_

shall be identified in the project cooperation agreement entered into with the non-Federal interest prior to initiation of construction.

- d. District commanders shall ensure that project-caused adverse impacts to ecological resources have been avoided or minimized to the extent practicable, and that remaining, unavoidable impacts have been compensated to the extent justified and have no more than negligible adverse impacts on the ecological resources. In addition, in those instances in which it is not technically practicable to complete mitigation concurrent with the last day of project construction because of the nature of the mitigation to be undertaken, the Secretary shall complete the required mitigation as expeditiously as practicable. The decision document will fully describe the mitigation planning accomplished as well as how the mitigation will be implemented.
- e. Status Report: Each District Commander shall report annually on the status of mitigation for all projects that are under construction, all projects for which the President requests funding for the next fiscal year, and all projects that have completed construction, but have not completed the mitigation required under section 906 of the Water Resources Development Act of 1986. Submission requirements will be established by separate guidance.

## 9. Monitoring and Adaptive Management.

- a. Current monitoring and adaptive management policy is presented in planning guidance (ER 1105-2-100). Adaptive management addresses the uncertainties about a water resource project's actual performance that exist when implementation decisions are made to undertake water resources projects. This technique allows decision making and implementation to proceed with the understanding that outputs will be assessed and evaluated and that some structural or operational changes to the project may be necessary to achieve the desired results. However, it is not a substitute for good planning or a vehicle for research.
- b. At the heart of adaptive management is a carefully designed monitoring program that may begin during construction and continue for a specified time after construction. The purpose of any type of monitoring is to determine if the outputs/results are satisfactory, and to determine if any adjustments to the project elements/measures should be made. These project adjustments constitute the adaptive management plan.
- (1) Monitoring. Most projects will only require periodic inspection, as part of normal operations and maintenance (O&M) to monitor whether or not it is functioning satisfactorily. When a specific monitoring requirement is included as part of the sponsor's project O&M responsibility, it will be accomplished at 100 percent non-Federal cost. All monitoring requirements should be specified in the O&M manual along with other operations, maintenance, repair, rehabilitation, and replacement (OMRR&R) requirements provided to the sponsor upon project completion.

EC 1105-2-409 31 May 05

- (2) For some projects, more extensive cost-shared, post-construction monitoring may be warranted, especially when the risk and uncertainty of achieving the projected outputs/results are high because new, unproven techniques are being applied or it is a significantly complex project. In these cases, cost-shared monitoring programs must be justified and guided by questions related to the uncertainty and significance of achieving anticipated project results/outputs. Proposals for cost shared monitoring plans must describe the rationale for monitoring, including key project specific parameters to be followed and how the parameters relate to achieving the desired outcomes or making a decision about the next phase of a project, the intended use(s) of the information obtained; and the nature of the monitoring including duration and/or periodicity; and, disposition of the information and analysis. The use of monitoring funds for basic research is inappropriate.
- (3) Proposals for cost-shared monitoring or other post-construction assessments are to be developed in coordination with the sponsor and/or ultimate project operator and included in the appropriate decision document (e.g., feasibility report, general reevaluation report, etc.) submitted for authorization or approval by higher authority. The estimated cost of the proposed monitoring program will be included in the project cost estimate and cost shared accordingly. The Corps share of any cost-shared monitoring will be funded under Construction, General. Cost-shared monitoring should normally not exceed 1 percent of the total first cost of the elements(s) of the project to be monitored. The period of cost-shared monitoring should not exceed 5 years following completion of construction; after 5 years, all monitoring will be the responsibility of the non-Federal sponsor. Exceptions to these limits will be considered on a case-by-case basis with supporting rationale as discussed in the preceding paragraph. Funding and implementation responsibilities must be identified in the decision document and specified in the Project Cooperation Agreement (PCA).
- (4) Creativity in the development of monitoring arrangements and assessing project performance is encouraged. Collaborative monitoring efforts and information sharing with the sponsor and among resource agencies, academic institutions, the research community and nonprofit organizations will improve the efficiency and effectiveness of data collection and project performance evaluation. It may also be possible to coordinate evaluation and assessment needs with the programs of various Federal, State and local resource agencies, or to develop a cooperative monitoring program involving multiple stakeholders. Coordinate proposed monitoring for similar projects within a river basin or watershed to prevent unnecessary redundancy in data collection, and to assure the usefulness of the cumulative information.
- (5) As part of an adaptive management approach, interim results should be monitored, in some cases, to determine if the next phase of a project should be constructed as defined in the decision document, constructed with modifications or not at all. The project specific parameters to be monitored and the quantified targets or decision criteria for each parameter based on desired outcomes should be identified in the decision document. On a large complex project there may be some features or elements that will

need confirmation of their impact and justification prior to their construction and the confirmation will best be acquired through the monitoring and analysis of the impacts of other elements of the project. The decision document must clearly present the need for phased implementation along with a relatively detailed explanation of the monitoring plan and decision processes for each phase and/or element.

- c. Adaptive Management. If the need for a specified adjustment is anticipated due to high uncertainty in achieving the desired outputs/results, the nature and cost of such actions should be explicitly described in the specifically authorized project's decision document. The adaptive management plan may be shown as a contingency item. If the results of the monitoring program support the need for adaptive management, the costs for any specified adjustment should not exceed 3 percent of the total project cost excluding the monitoring costs. Any expenditure made under the adaptive management plan will be cost shared with the non-Federal sponsor.
- 10. <u>Implementation</u>. This guidance is effective immediately and shall be applied to all studies for which a Feasibility Cost Sharing Agreement has not yet been signed. All studies should embrace the principles and intent of this guidance to the fullest degree possible.

FOR THE COMMANDER:

Appendix A – References

Colonel, Corps of Engineers
Executive Director of Civil Works

## APPENDIX A REFERENCES

- a. Section 515 of the Treasury and General Government Appropriations Act of 2001 (Public Law 106-554; commonly called The Data Quality Act).
- b. 40 CFR 1500-1508. Council on Environmental Quality. Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act. (November 29, 1978).
- c. Executive Order 13352, Facilitation of Cooperative Conservation (August 26, 2004).
- d. Office of Management and Budget. Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies. (February 22, 2002, 67 FR 8452-8460).
- e. Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies (Principles and Guidelines), Water Resources Council, 10 March 1983
  - f. ER 1105-2-100, Planning Guidance
  - g. EC 11-2-187, Program Development Guidance, Fiscal Year 2006
  - h. EC 1110-2-105 Engineering and Design Independent Technical Review
- i. U.S. Army Corps of Engineers Environmental Operating Principles 26 March 2002.
  - j. Civil Works Strategic Plan (March 2004)
- k. New Directions in Water Resources Planning for the U.S. Army Corps of Engineers, National Research Council, 1999
- 1. Review Procedures for Water Resources Project Planning, National Research Council, 2002
- m. Analytical Methods and Approaches for Water Resources Project Planning, National Research Council 2004
- n. Adaptive Management for Water Resources Project Planning, National Research Council, 2004
- o. River Basins and Coastal Systems Planning within the U.S. Army Corps of Engineers, National Research Council, 2004
- p. U.S. Army Corps of Engineers Water Resources Project Planning A New Opportunity for Service, National Research Council, 2004

## Appendix 2

# Office of Management and Budget and President's Council on Environmental Quality

## MEMORANDUM ON ENVIRONMENTAL CONFLICT RESOLUTION

November 28, 2005



Executive Office of the President Office of Management and Budget



Executive Office of the President Council on Environmental Quality

## Dear Secretary/Administrator:

The President strongly supports constructive and timely approaches to resolving conflicts when they arise over the use, conservation, and restoration of the environment, natural resources, and public lands. Consistent with the August 2004 Executive Order on Cooperative Conservation, the accompanying Memorandum on Environmental Conflict Resolution sets forth basic principles for engaging federal agencies in environmental conflict resolution and collaborative problem solving. The statement further directs agencies to increase the effective use of environmental conflict resolution and build institutional capacity for collaborative problem solving. It provides a useful compilation of mechanisms and strategies that can be used for achieving those goals.

Over the past few years, several agencies have adopted some of these mechanisms and strategies and have reported progress on improving negotiated outcomes and the implementation of agreements. We applaud the leadership those agencies have demonstrated and urge agencies that have not begun developing and implementing such approaches to begin that process.

Your support is critical to the success of the Administration's goal to increase the effective use of environmental conflict resolution and collaborative problem solving. We urge you to actively pursue the appropriate mechanisms and strategies enumerated in the accompanying policy statement. Thank you for your support in this important undertaking.

Joshua Bolten

Director

Office of Management and Budget

Date: 11/28/05

James L. Connaughton

Chairman

Council on Environmental Quality

Date: 11/20/05

## Office of Management and Budget and President's Council on Environmental Quality MEMORANDUM ON ENVIRONMENTAL CONFLICT RESOLUTION

#### SECTION 1. PREAMBLE

- (a). <u>Problem.</u> This administration and those that follow will continue to face the challenge of balancing competing public interests and federal agency responsibilities when striving to accomplish national environmental protection and management goals. This is a fundamental governance challenge. This challenge can manifest itself through:
  - Protracted and costly environmental litigation;
  - Unnecessarily lengthy project and resource planning processes;
  - Costly delays in implementing needed environmental protection measures;
  - Foregone public and private investments when decisions are not timely or are appealed;
  - Lower quality outcomes and lost opportunities when environmental plans and decisions are not informed by all available information and perspectives; and
  - Deep-seated antagonism and hostility repeatedly reinforced between stakeholders by unattended conflicts.

To address this environmental governance challenge more effectively, federal departmental and agency leadership should develop strategies to prevent or reduce environmental conflicts and generate opportunities for constructive collaborative problem solving when appropriate.

(b). <u>Background.</u> In June 2004, Jim Connaughton, Chairman of the Council on Environmental Quality (CEQ) hosted a meeting for senior policy officials and legal counsel from fifteen federal departments and agencies actively engaged in environmental issues. The meeting focused on preliminary policy direction and strategic program commitments for core federal departments and agencies that deal with environmental issues. It presented an opportunity to review administration priorities, learn from departmental initiatives already underway, and discuss the challenges associated with reducing environmental conflicts and improving environmental decision making.

The leadership meeting included presentations by Secretary Gale Norton for the Department of the Interior and EPA Administrator Michael Leavitt, who shared the progress their organizations have made over many years as federal leaders in the use of environmental conflict resolution and collaborative problem solving. They both recognized the considerable opportunities that existed to expand these approaches to a broader set of environmental policy areas and federal departments and agencies.

(c). <u>Basic Principles of Agency Engagement in Environmental Conflict Resolution and Collaborative Problem Solving</u>. These principles were developed collaboratively with senior staff from the Departments of Agriculture, Commerce, Defense, Energy, Homeland Security, Interior, Justice, Transportation, Army, Navy, and Air Force, and the U.S. Environmental Protection Agency, the Federal Energy Regulatory Commission, the President's Council on Environmental Quality (CEQ) and the U.S. Institute for Environmental Conflict Resolution. The principles are attached to this policy memorandum in Attachment A.

These principles draw on over 30 years of collective experience and research on interest-based negotiation, consensus building, collaborative management, and environmental mediation and conflict resolution. These principles provide guidance for preventing and reducing environmental conflicts as well as for producing more effective and enduring environmental decisions.

Through this policy, federal agencies are being summoned to put these principles into effect as they increase the use of environmental conflict resolution and other forms of collaborative problem solving.

(d). <u>Policy Authorities</u>. Since 1990, Congress and the Executive branch have encouraged federal agencies to increase the use of a wide range of consensual dispute resolution processes to prevent and resolve disputes and issues in controversy whenever possible, to enhance the operation of government and to better serve the public. See the attached list of relevant federal authorities in Attachment B.

In 1998, Congress created the U.S. Institute for Environmental Conflict Resolution of the Morris K. Udall Foundation (the U.S. Institute) to assist parties in resolving federal environmental, natural resources, and public lands disputes, to increase the appropriate use of environmental conflict resolution (ECR), to promote collaborative problem-solving and decision-making during the design and implementation of federal policies to prevent and reduce the incidence of future environmental disputes, and to increase the appropriate use of environmental conflict resolution and the ability of federal agencies and other parties to engage in ECR effectively.

In 2003, the Attorney General of the United States, in his role as Chairperson of the Interagency Alternative Dispute Resolution (ADR) Working Group established in 1998, stated that "ADR helps make the government more results-oriented, citizen-centered and provides for effective public participation in government decisions, encourages respect for affected parties and nurtures good relationships for the future." In 2004, President George W. Bush issued the Executive Order on Facilitation of Cooperative Conservation to ensure that "the Departments of the Interior, Agriculture, Commerce, and Defense and the Environmental Protection Agency implement laws relating to the environment and natural resources in a manner that promotes cooperative conservation, with an emphasis on appropriate inclusion of local participation in Federal decision making, in accordance with their respective agency missions, policies, and regulations."

In 2004, the U.S. Institute conducted a survey of selected federal agencies that have environmental and resource decision making responsibilities to determine the extent to which they promote and institutionalize the use of ECR and to identify successes and potential barriers. The survey revealed considerable variation across the ten responding departments. Among the central findings are that:

- Some departments and agencies have been engaged for several years in supporting collaborative processes and the use of ECR. Others are increasing their familiarity and commitment to ECR, developing ECR programs and assigning staff. However, several departments have yet to designate the specific responsibility for promoting ECR within their department or agency.
- Initiating and engaging in specific ECR processes is often hindered by a general lack of understanding about ECR and where to access guidance and resources.

 The survey respondents identified some 30 statutory and regulatory arenas and a growing list of additional program areas where ECR had already been used or could be applied in the future, underscoring the potential for much broader use of these processes.

These survey findings stimulated further senior staff discussions and have prompted the following policy guidance.

## SECTION 2. DEFINITION OF ENVIRONMENTAL CONFLICT RESOLUTION

Under this policy, Environmental Conflict Resolution (ECR) is defined as third-party assisted conflict resolution and collaborative problem solving in the context of environmental, public lands, or natural resources issues or conflicts, including matters related to energy, transportation, and land use. The term "ECR" encompasses a range of assisted negotiation processes and applications. These processes directly engage affected interests and agency decision makers in conflict resolution and collaborative problem solving. Multi-issue, multi-party environmental disputes or controversies often take place in high conflict and low trust settings, where the assistance of impartial facilitators or mediators can be instrumental to reaching agreement and resolution. Such disputes range broadly from administrative adjudicatory disputes, to civil judicial disputes, policy/rule disputes, intra- and interagency disputes, as well as disputes with non-federal persons/entities. ECR processes can be applied during a policy development or planning process, or in the context of rulemaking, administrative decision making, enforcement, or litigation and can include conflicts between federal, state, local, tribal, public interest organizations, citizens groups and business and industry where a federal agency has ultimate responsibility for decision-making.

While ECR refers specifically to collaborative processes aided by third-party neutrals, there is a broad array of partnerships, cooperative arrangements, and unassisted negotiations that federal agencies enter into with non-federal entities to manage and implement agency programs and activities. The Basic Principles for Agency Engagement in Environmental Conflict Resolution and Collaborative Problem Solving presented in Attachment A and this policy apply generally to ECR and collaborative problem solving. This policy recognizes the importance and value of the appropriate use of all types of ADR and collaborative problem solving.

## SECTION 3. APPLICABILITY

This policy memorandum applies to all executive branch agencies (as defined by Title 5 USC Section 105) involved in carrying out the National Environmental Policy Act and other laws in effect to manage and conserve our environment, natural resources and public lands.

#### SECTION 4. POLICY DIRECTION

- (a). Federal agencies should ensure their effective use of ECR and other forms of collaborative problem solving consistent with the Basic Principles of Environmental Conflict Resolution and Collaborative Problem Solving in Attachment A.
- (b). Given possible savings in improved outcomes and reduced costs of administrative appeals and litigation, agency leadership should recognize and support needed upfront investments in collaborative processes and conflict resolution and demonstrate those savings in performance and accountability measures to maintain a budget neutral environment.

- (c). Several mechanisms, strategies, and resources exist to aid agencies in this effort and to build internal agency capacity, including those presented in Section 5 and should be drawn on as appropriate to each agency.
- (d). Agencies should consider the use of assisted negotiations through ECR when addressing environmental conflicts, utilizing their own ECR/ADR staffs, the U.S. Institute, the U.S. Department of Justice, or other ECR/ADR organizations, as appropriate.
- (e). Federal agencies are encouraged to draw on the services of the U.S. Institute to review internal mechanisms and strategies for increasing the use of ECR and to assist them in developing performance and accountability measures consistent with P.L. 105-156.
- (f). The Director of the Office of Management and Budget (OMB) and the Chairman of CEQ will convene periodic leadership meetings of departments and agencies to advance progress on this policy. The U.S Institute shall convene a quarterly interagency forum of senior departmental staff to provide advice and guidance and facilitate interagency exchange on ECR.
- (g). Federal agencies should report at least every year to the Director of OMB and the Chairman of CEQ on their progress in the use of ECR and other collaborative problem solving approaches and on their progress in tracking cost savings and performance outcomes. Agencies are encouraged to work toward systematic collection of relevant information that can be useful in on-going information exchange across departments as fostered by Section 4(e).

## SECTION 5. MECHANISMS AND STRATEGIES TO INCREASE THE EFFECTIVE USE OF ECR AND IMPROVE AGENCY CAPACITY

Federal agencies are directed to increase the effective use of ECR and build institutional capacity for collaborative problem solving. The following mechanisms and strategies are among those that can be of use in pursuing these aims.

- (a). Departments/Agencies with Existing or Developing ECR Programs
  - (1). Integrate ECR objectives into Agency Mission Statements, Government Performance and Results Act Goals, and strategic planning through:
    - Identifying relevant GPRA goals and link to agency strategic plans.
    - Aligning plan for implementation of ECR with agency's strategic plan goals
    - Aligning of planning, budgeting, and accountability systems to facilitate collaboration.
    - Setting performance goals for increasing use of ECR; explore why goals may not be met and what steps are necessary to meet them in the future
    - Tracking annual costs of environmental conflict to the agency and setting goals for reduction in such costs
    - Identifying annual resource savings and benefits accrued from collaborative solutions
  - (2). Assure that Agency's Infrastructure Supports ECR through:

- Drawing on agency dispute resolution specialist and existing agency ADR resources pursuant to the Alternative Dispute Resolution Act of 1998
- Providing leadership support
- Setting internal policy directives
- Integrating use of ECR into performance plans
- Creating incentives to increase appropriate use
- Supporting staff outreach, education, and training
- Documenting other useful forms of ADR such as un-assisted principled negotiation
- (3). Invest in Support of Programs through:
  - Assigning staff and direct resources to support programs
  - Performing internal self-audit of priority environmental goals or problems and areas
    of expanding or challenging conflict and assess potential value and appropriateness
    for using ECR or other collaborative problem solving processes
  - Identifying existing program resources and future needs
  - Fostering collaborative leadership at all levels through recruitment and career development.
- Building expert knowledge, skills, and capacity by strengthening intellectual and technical expertise in ECR and collaborative problem-solving.
- Documenting demonstration projects and dispute system design results
- Implementing tracking systems for requests for assistance, ECR cases and projects
- Identifying efficient methods to access project funding
- Building partnerships with other agency programs
- Supporting early assessment and assistance for ECR and collaborative problem solving so that subsequent savings can occur through improved outcomes and reduced administrative appeals and litigation.
- (4). Focus on Accountable Performance and Achievement through:
  - Periodic progress reports
  - Issuing guidance on expected outcomes and resources
  - Conducting program evaluation
  - Conducting ECR case and project evaluation
  - Responding appropriately to evaluation results to improve appropriate use of ECR.
- (b). Departments/Agencies without ECR Programs.
  - (1) Draw on any of the above mechanisms in 5(a) that may be applicable. For example, perform internal audit of areas where environmental conflicts are occuring; inventory annual costs of environmental conflict their their agencies and set goals to reduce those costs; identify annual savings from using collaboration which could be tracked on a specific case through evaluation processes
  - (2) Demonstrate increased use of ECR by applying to cases and under conditions consistent with the Basic Principles for Agency Engagement in Environmental Conflict Resolution and Collaborative Problem Solving in Attachment A.

# Attachment A. Basic Principles for Agency Engagement in Environmental Conflict Resolution and Collaborative Problem Solving

Informed Commitment Confirm willingness and availability of appropriate agency leadership and staff at all levels to commit to principles of engagement; ensure commitment to participate in good faith with open mindset to new perspectives

Balanced, Voluntary Representation

Ensure balanced inclusion of affected/concerned interests; all parties should be willing and able to participate and select their own representatives

Group Autonomy

Engage with all participants in developing and governing process; including choice of consensus-based decision rules; seek assistance as needed from impartial facilitator/mediator selected by and accountable to all parties

**Informed Process** 

Seek agreement on how to share, test and apply relevant information (scientific, cultural, technical, etc.) among participants; ensure relevant information is accessible and understandable by all participants

Accountability

Participate in the process directly, fully, and in good faith; be accountable to all participants, as well as agency representatives and the public

**Openness** 

Ensure all participants and public are fully informed in a timely manner of the purpose and objectives of process; communicate agency authorities, requirements and constraints; uphold confidentiality rules and agreements as required for particular proceedings

**Timeliness** 

Ensure timely decisions and outcomes

Implementation

Ensure decisions are implementable consistent with federal law and policy; parties should commit to identify roles and responsibilities necessary to implement agreement; parties should agree in advance on the consequences of a party being unable to provide necessary resources or implement agreement; ensure parties will take steps to implement and obtain resources necessary to agreement